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SCARLET FEVER, AND CERTAIN SUGGESTIONS FOR ITS TREATMENT IN ACCORDANCE WITH THE MOST RECENT ADVANCES IN SCIENCE AND EXPERIENCE.

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THE experienced practitioner recognizes scarlet fever as an infectious disease, uncertain in its character, sometimes of a very mild type, normally running a rapid course, without complications, complete recovery taking place within fifteen days or even in less time. Again, other cases set in with very severe symptoms, such as vomiting and purging, with an intense fever from the first, and its course from day to day attended by progressive aggravations and complications, with a tendency to necrotic processes; so that, finally, the little patient succumbs. The disease is always to be regarded as treacherous, and for this reason the physician ever feels solicitous when attending it. The intention of this article is not to go into any elaborate description of scarlet fever, but merely to call attention to certain therapeutical measures for its treatment, which, if not entirely new to some of the profession, are but little used by many, and nevertheless are of great value. Mild cases of scarlet fever require scarcely any medicinal treatment, the disease being emphatically self-limited; little else is requisite except to keep the patient confined in a well ventilated apartment at about 65 to 68 degrees, with the strict enforcement of a rigid diet, such as milk or gruels, tea, cocoa, broths, and lemonade *ad libitum*. After the appearance of the rash, it is well to anoint the patient with pure vaseline, and in those cases where the eruption is intensely developed, carbolated vaseline may be substituted, as it is believed to act somewhat as an antidote to the poison of the disease, rendering it less contagious. Usually the desquamation sets in as soon as the eruption begins to decline, on the sixth or seventh day. With scarlet fever we often have serious complications and sequelæ, the result of pathological processes which are very liable to develop during the progress of this disease, all of which we may attribute to the paralyzing effect of the virus, which by poisoning the blood, finally affects the brain and nerve-centres so viciously that fatal embolism of the heart may ensue. Such complications are often made manifest by an aggravation of the fever, the temperature rising as high as 106° or more, when we may also anticipate the setting in of other unfavorable symptoms, such as enlargement of the glands of the neck, pharyngitis, metastatic inflammation of the ear, and albuminous nephritis. The judicious practitioner should leave the lighter form of the disease to nature; but when it is complicated with adynamic, ataxic and typhoid conditions, or with coma, we have malignant scarlatina, something that requires the most careful management. I will here sum up the general indications for the treatment of this disease:—they are to reduce the temperature and moderate fever as much as possible, sustain the strength of the patient by proper nutrition, promote repair of such tissues and organs as have been seriously implicated and injured by the disease, and, finally, to prevent complications. This rational plan of treatment is the best that we know, because we cannot abort an attack of scarlet fever, and we have no knowledge of any medicine that has the property of destroying the specific virus of the disease. The far-famed belladonna, recommended more than 80 years ago, by such high authorities as Hahnemann, and Hufeland, has been at times credited by not a few in the profession as being a reliable prophylactic; and we have thought that when given during an epidemic, if it did not actually prevent it, at least that it modified the attack. But candor compels us to say, after a large and varied experience in its use as a *preventive*, the final results as to its possessing such virtues are negative, and at present it is not considered trustworthy. Yet, although belladonna may not be actually prophylactic, it is an admirable medicine and curative for many symptoms that occur during the course of disease, as we all know. During the progress of this fever, we are liable to have set up a number of *necrotic* processes, in themselves serious complications, that it is necessary for us to constantly combat; and, furthermore, the objective point of all in this disease is a peculiar virus acting prejudicially upon the system. The effects of this poison are in some instances so energetic and lethal, as to cause either convulsions or coma, ending fatally in a few hours, and sometimes they set in at the very commencement of the attack; and before the practitioner can make a clear diagnosis, we have rapid and sudden

uræmic intoxication of the brain, which affects the nerve-centres so energetically as to end in death. Unfortunately, convulsions are not confined to this stage of the attack, but they may set in at any and every period of the fever, even during convalescence, when they may occur suddenly, and in some instances they are so energetic as to exhibit phenomena similar to tetanic spasms. In the experience of the writer, these spasms are peculiarly liable to follow when there are any developments of rheumatism during the convalescence, and when rheumatic symptoms develop insidiously, even at this stage during the decline of the disease, they are to be regarded as among the most serious complications that can happen. During the progress of convalescence from scarlet fever, the young practitioner should not overlook any rheumatic symptoms that may occur.

For three years past, I have prescribed stimulants freely for all *serious* forms of scarlatina; I administer them in the form of wine-whey, milk-punch or pure whiskey, in doses of two teaspoonfuls of the latter every two hours, given in a little water. If the case is desperate and collapse threatens, I give it more frequently. In consultations, I have found this treatment to surprise some old and conservative practitioners, and at times they have positively objected to it. I have thus far had no occasion to regret having made the trial, as no case so treated has terminated unfavorably.

In support of this treatment, I will refer to the following authorities: Dr. E. Henoch, in his lectures upon Diseases of Children, says: "the paralyzing effect of the virus on the nervous system of the heart is the chief factor to be combated by the physician." Henoch also says that he has discarded quinine, salicylic acid, etc., and confines himself to alcoholic stimulants. Tokay wine, champagne or brandy he recommends, in two teaspoonful doses, every hour in bad cases. Dr. J. Lewis Smith ("Diseases of Children," fifth edition, page 209), in speaking of the treatment of scarlet fever, says: "*While all but the mildest cases* require the use, at regular intervals, of alcohol, either in the form of wine-whey or milk-punch, *those severe cases* which are designated *malignant* require alcoholic stimulants *in large* and *more frequent doses.*" I refer also to the *Cincinnati Lancet and Clinic*, Vol. X., page 53, in which appears a report read before the Cincinnati Academy of Medicine, by Dr. G. S. Mitchel. Dr. M. stated that he had treated over forty cases of scarlet fever, and had given whiskey freely, and they all recovered.

The favorable action of alcohol may be explained as follows: In severe cases of scarlatina the child's system seems to be intensely intoxicated by the virus of the disease itself, and this poisoning enables the patient to tolerate alcohol in increased doses, such as might act prejudicially under other conditions. That alcohol is a "food" I have never quite believed, although this doctrine is held by some high authorities (it is conceded to be an "indirect nutrient"); but that it prevents rapid molecular changes, retards the elimination of waste matter, checks metamorphosis of tissue, lessens nerve-sensibility, lowers the bodily temperature, is rapidily oxidized in the system, we have abundant evidence to prove. Alcohol, given in such a zymotic disease as scarlatina, by stimulating the nervous system, saves the tissues and enables the capillaries to contract and be emptied of their blood, thereby calming vascular excitement and inflammation, and in this way probably reduces the temperature, so that in this especial disease it may act as an antipyretic.

Moleschott, in his quaint language, has said: "Alcohol is the savings bank of the tissues;" and its benign and curative action in scarlet fever proves the truth of the aphorism. Again, it is probable that alcohol acts by lessening the oxidizing tendencies of the red corpuscles of the blood, diminishes the nervous sensibility of the brain and nervous system, and thereby renders the poison of scarlet fever less intense and energetic, so that it cannot act so deleteriously as it does when no alcohol is taken. Lastly, it is proved that "while alcohol is circulating in the blood its presence retards those molecular or atomic changes which constitute nutrition, disintegration and secretion, on which the phenomena of life depend."—(N. S. Davis, M D., Lectures on the Practice of Medicine.) In intense fevers we know that there is an excessive heat production, and this must be dependent upon excessive changes in the stored materials of the human body, or, in other words, the fever is kept up by a great waste going on in the body, and alcohol when taken at this time has the property of preventing a too rapid waste in the system, and retarding molecular changes. As long ago as 1848 it was asserted by Dumriel and Dumarquay that after the administration of alcohol there is a fall in the temperature of the human body, and that it causes sweating and may be thus eliminated through the skin. The influence of alcohol is therefore favorable against the inroads and severe consequences of the infection and especially against *necrotic* processes, *e.g.*, diphtheria, adenitis, etc.; and this is already conceded and well understood by the profession, and seems to be a rational explanation of its action in this disease.

When we begin to see the paralyzing influences of the scarlatinal poison displayed by the usual symptoms — the pulse mounting up to 135°, or even as high as 160° a minute, the temperature at 106° and more, then we may with safety administer

whiskey. (In our experience thus far we have not had occasion to try this stimulating treatment upon a child with scarlet fever under three years of age, but we should not hesitate to do so if such a case should occur.)

Use of tepid and cold water.—Throughout the whole course of the disease, when the child is restless, we recommend bathing freely with tepid water, and it will be found to act as a sedative; but it is only indicated when the temperature is not excessive, at about 103°. When the temperature is as high as 105° or more, then cold ablutions are necessary, and we order the child to be bathed with iced water, applying it with a sponge or cloths dipped in the same. This refrigerating treatment may be kept up for hours, or even days, as we did in one case a few months since, in a male child four years old, where the temperature was 106⅛°.

In this case, after the fourth day of its outbreak, when the symptoms became more and more unfavorable, with the above temperature apparently rising and the child not having slept since the first onset of the attack, we placed him in a wet sheet (wet in water at 69°) and kept him in it for about three-quarters of an hour. At the time he was packed in the wet sheet he was in a state of the greatest nervousness and exhaustion from want of sleep, and the excitement was so great that I was constantly in fear of convulsions; and this may readily be appreciated when I state that his elbows, knees, shoulders, and almost the whole periphery of his body, were intensely reddened from constant friction caused by the restlessness, tossing and turning in bed, that had been kept up, almost without intermission, for four days previously. The parents feared the consequences of the wet sheet, but the case was so grave that they were induced to allow me to use it. While placing him in the wet pack he at first resisted and screamed very much, but within ten minutes after it was first applied, he became quiet, and soon was apparently asleep. After taking him out of the pack and placing him in bed he was much more quiet; his temperature had fallen to 104°; he began to rest some and passed a fair night. The refrigerating treatment was, in a measure, kept up for three days, but the favorable crisis took place immediately after he was placed in the first wet sheet. Such favorable and encouraging effects from the refrigerating treatment are by no means rare, as we can call to mind many other cases thus treated during the past twenty years, and some of them quite as remarkable as the one cited. This treatment may be more applicable to vigorous and strong children, and in sthenic cases, than to weakly children; in the former there is no danger of a collapse or other unpleasant consequences from the cold so suddenly applied.

Caution.—Immediately before placing the child in a pack, or applying cold effusions vigorously, I would advise that a dose of some stimulant be given, either Tokay wine or whiskey, in order to prevent anything like a collapse setting in. More than 160 years ago, Dr. Hancock, rector of St. Margaret's, Lothbury, England, published a pamphlet entitled, "*Febrifugum magnum*, or common water the best cure for all fevers"; and 90 years ago, Dr. Currie, in England, advocated the "use of cold water in the treatment of scarlatina." It would seem from this that the oft-quoted adage, "nothing new under the sun" is true regarding this peculiar treatment of scarlet fever. We conclude that the treatment so ably advocated by Dr. Currie fell into disuse, probably because the profession at that date had not the clinical thermometer as a guide, or other reliable data to go upon, or any very special indications for its use. The use of cold water or refrigeration, aptly and very appropriately termed "*Febrifugum magnum*," is especially applicable for cases not only similar to the one cited, but to many others: *e. g.*, for those forms of scarlatina that do not run a normal course, where the rash fails to appear, skin is pale, extremities cold, pulse and temperature very high, and not in concord with the other symptoms.

In that formidable type of the disease called "scarlatina fulminans," the attack is ushered in suddenly by a convulsion, the skin shows no appearance of the rash coming out, coma follows the convulsion, and the practitioner is in doubt as to the diagnosis. This form of the disease usually ends fatally, and the parents of the child are apt to be dissatisfied with the practitioner, and are disposed to doubt whether it was an insidious case of undeveloped scarlatina. In a case of this kind under the care of another practitioner, the temperature rose to 105½°, when the wet sheet was at once applied and the convulsion was allayed, the temperature moderated, the eruption appeared, and the child recovered. I explain the action of the cold water in such cases, by the sudden revulsion it produces in at once cooling the patient and lowering the temperature, so that it soon acts as a sedative—for "the stronger the action the greater the reaction." In my own practice, I have had at least three cases where the eruption which was already developing, suddenly retroceded, and the fever began to increase in intensity. In these instances I saw fit to try the cold water pack, and the effect of it was to bring back the suppressed eruption. The temperature of the water in which the wet sheet is immersed, should be about 69 to 70 degrees, and for safety, or to satisfy the friends who are prejudiced against cold water, a little alcohol may be added to the water; this little precaution the practitioner will do well to

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heed. For several years past we have carefully examined the urine of all scarlet fever patients that we have treated, and as a result, have found albumen in greater or less quantity (sometimes only a trace), in about half of the cases. In earlier years of our practice, we were taught to regard the presence of albumen in scarlet fever as a matter of grave importance; such, however, is not always the case, unless it is exhibited in excess.

It is a fact of importance that scarlatina appears and runs its course without any eruption—*i. e., scarlatina sine exanthemate*, or scarlatina lentens—this may embarrass the practitioner, and confuse him in making his diagnosis; but such cases are undoubted, and my experience of this kind is confirmed by Dr. E. Henoch, ("Diseases of Children," p. 274). When, after the 5th or 6th day, the glands of the neck swell and become indurated (scarlatinal bubo) it is an indication of the development of a *necrotic* process peculiar to this disease, and it may be regarded as a serious complication, as all old practitioners well know. The treatment of this swelling (in addition to the internal remedies usually prescribed for it) cannot be limited to the "bacon rind," so popular in domestic practice, and certainly useful; but a poultice of aconite leaves will be found to be a very soothing application. Ice, pounded, and enclosed in a cloth has been recommended to relieve or to reduce these swellings, and sometimes we have thought that it acted well; but we can recommend something better in aconite In years past we have applied the tincture of the leaves; but of late we have tried the following poultice, as suggested by Dr. N. S. Davis, of Chicago ("Practice of Medicine," page 509). Take of aconite leaves, one ounce; muriate of ammonia, half an ounce; pour upon these two pints of boiling water, and make an infusion. These leaves taken out of the hot water are to be placed in a thin muslin cloth and may be regarded as a poultice, and is to be applied over the swellings as hot as can be borne, and frequently changed, so that it will be continuously hot. To recapitulate, we repeat that we regard alcoholic stimulants and refrigeration safe and practical as auxiliaries to other treatment, such as may be indicated in severe cases of scarlatina.

Diet and nourishment.—Only liquid food is allowed from the commencement of the attack until convalescence is fully established and completed. (This rule is absolute in all cases). The following articles of nourishment are especially recommended: milk, barley, gruel, beef tea, oyster broth, cocoa, or broma, Japan tea, soda crackers toasted, milk-whey, wine-whey, and milk-punch, in severe cases; in the stage of convalescence, buttermilk, custard, tapioca or farina pudding, may be given with propriety. In some cases ice cream may be allowed, and it is frequently very grateful to the little patient; also lemonade may be taken at any time desired. When the child is thirsty, give freely of pure water, but if nausea is complained of, then, give carbonic acid water (English soda) out of a syphon bottle; and this last-named should be always at hand, and will be found to be very refreshing to the little sufferer throughout the attack. It is believed by some practitioners to materially allay the sore throat which accompanies the disease, and it certainly allays nausea and quenches thirst. (We have said that the temperature of the apartment should be from 65 to 68 degrees, during the height of the fever; but when convalescence commences the child should be kept in a room at about 70 degrees. The room should be ventilated daily, but all draughts must be carefully avoided. There is much more danger from "catching cold" during convalescence than while the fever is at its height.)

In not a few cases of scarlet fever the convalescence is incomplete; the child remains weak, with loss of appetite, and in spite of remedies given, no improvement takes place. In certain cases the practitioner may have to deal with some insidious complications which may cause no little alarm to the fond parents; the child, from day to day, seemingly not improving or recuperating, but showing loss of strength, as if on the decline. In such cases we would suggest a little black coffee to be given for its tonic effect. At this period a secondary fever may set in or threaten, and a few doses of quinine may be required to properly combat this condition. The clothing of the child, also the bed covering, should be changed at least every other day; perfect quiet should reign in the sick-room, and no company is to be allowed to come to the house except those who have the care of the child. A curious fact about the contagion of scarlet fever is stated in Dr. J. Lewis Smith's work on diseases of children. It is said that it is possible for a child convalescing from scarlet fever, that has otorrhœa, to give the disease to another child, and a case is cited to that effect. This is something for the medical profession to investigate. Some children are brought very low after an attack of scarlatina, and do not seem to properly convalesce—they are even reduced to a state of approaching marasmus. Here koumiss is to be recommended—indeed, this may be given at any time during the run of the fever, for nourishment, if the child relishes it. Koumiss is really a "milk wine," or, as some call it, a "milk champagne," and it is peculiarly adapted for children or adults when afflicted or threatened with any debilitated or anæmic conditions of the system. One more practical resort we have not mentioned, and that is the sponging of the child with equal parts of vinegar and water, which is highly

praised by German authorities, not only for its sedative, soothing and cooling action, but it is claimed by a practitioner for whom we have a great respect, that it will in a degree modify the poison; that is to say, that vinegar possessing certain disinfecting properties, will at least exert some kind action in assisting nature to eliminate the poison. Authorities also assert that lemon juice, when freely taken through the whole course of the fever, exerts a favorable influence of this kind. In giving these directions I do not wish to be prolix, and I may have repeated some suggestions unnecessarily; but my only wish is to give a faithful and candid statement of the results of an extended experience in the practice of children, in a disease recognized as one uncertain in its issue.

An ordinary case of scarlet fever, as well as those of the graver type, will perhaps require the administration of certain medicines, such as are well known to the profession, and which the writer of this would also make use of; but the intention of this paper is only suggestive, to call the attention of the profession to two therapeutical resorts but little used by the majority of practitioners, but which we think are of great importance—and we again wish to repeat that they are to be regarded as rational expedients, and *auxiliary* to such remedies as the special symptoms and general indications of the patient may call for. "*Experimentia docet; Quod vidi, scripsi.*"

BRAIN, MIND, AND SOUL.

By Eldridge C. Price, M. D., Baltimore, Md.

In the *Popular Science Monthly*, for November, 1884, is published a lecture, by Dr. William A. Hammond, entitled "The Relations between the Mind and the Nervous System," which contains some ideas both interesting and worthy of careful consideration. His definition of mind is, "that it is a force possessing peculiar properties, and developed by a substance constituting a part of the nervous organism of man and other animals, and known to anatomists as gray nerve-tissue."

Mind, therefore, is not peculiar to man—it is the property of all animals, down to the humblest self-propelling individual. Mind is simply nerve-force, the servant of gray nerve-tissue, regardless of the location of the nerve-centre, whether in the head or in the abdominal cavity, whether in the cerebro-spinal system or in the sympathetic system.

I here take occasion to remark that Dr. Hammond is not the originator of this idea. Ribot, in his "English Psychology," says, "The doctrine which recognizes sensitive functions in the spinal cord is not new."

Mr. Bain believes "that the brain alone does not constitute the *sensorium*, that it is not the only seat of mind, but that that seat is wherever there are nervous currents, including the brain, the nerves, the muscles, the organs of the senses, and the viscera." And again, Ribot remarks, "Thus, then, our idea of mind is nothing more than the idea of a series of actual sensations, and of the infinite possibilities of sensations which shall realize themselves under appropriate conditions." Which is equivalent to saying that mind is the expression of some condition, or force, generated by nerve-centres, whether resulting in objective activity or not. Mr. George H. Lewes writes: "The current view is this: sensibility belongs only to the centres within the skull; all other centres have only the property of *reflecting* impressions. By this reflecting of impressions is meant that when an impression is made on a sensory nerve, and by it carried to the spinal cord, the impression there becomes *reflected* into a motion; the motor nerve carries the impulse to a muscle, and thus an action results, unprompted or unaccompanied by any sensation whatever. In direct opposition to this, I maintain that unless an impression on the sensory nerve excites a sensation in the centre no motion whatever takes place."

Robert Whytt, Prochaska, J. J. Sue, Legallois, Wilson, Philipi, Lallemand and Calmeil all entertained ideas consonant with this belief of Dr. Hammond's.

In illustration of the correctness of this theory, the co-ordinated actions of decapitated snakes and chickens, brainless pigeons, ducks and infants are cited. Quotations from the author's work on "Sleep and its Derangements," are also made concerning the performance of two separate and distinct actions by the same individual, one of which acts was performed consciously and the other unconsciously, both being done equally well; besides, other cases in point are quoted, all apparently sustaining this theory of mind.

Dr. Hammond, in referring to such expressions as a "good heart," "choleric," "splenetic," etc, says, "How could the notions that gave birth to such expressions arise in the human mind? Doubtless, the origin was due to the fact that, under the influence of certain emotions, there are disturbances in the organs with which they are associated.

Thus the passion of love produces a sensation of fulness in the region of the heart and the action of that organ is quickened. In mental depression, or in consequence of fits of anger, the liver is so deranged that the bile ceases to be produced, and pain is felt in that part of the body in which the liver is situated; and, when the emotion of pity is strongly experienced, a sensation of weakness, or, as it is sometimes called, a sinking feeling, is felt at the pit of the stomach." (This last sensation may be caused by nervous

exhaustion, the result of either sudden or protracted expenditure of great quantities of nervous force.) The Doctor continues, "It has been customary with modern writers—and I have until quite recently been of the like opinion—to regard these disturbances as being the effects of emotions that originated in the brain, and not as indicating that the organs in which they are felt have anything to do with the evolutions of love or anger, or fear or compassion, or any other passion or feeling. * * * Now, gray nerve-tissue, wherever it exists, is a generator of nerve-force, or mind, and it is not unreasonable to suppose, therefore, that these masses of tissue in question, that are placed around the heart, the liver, the spine, and other organs, and a vast number in their substance, have some influence in causing the production of those emotions that make themselves felt in the parts of the body with which former universal beliefs and our present forms of speech have associated them."

We find, too, as an additional fact in support of this view, that in certain mental affections, characterized by great emotional disturbances, these ganglia are in various parts of the body the seats of disease. Therefore, there is some reason for the opinion that not to the brain alone do we owe the evolution of mind, but that the sympathetic system of nerves is also concerned in its production." Dr. Hammond further remarks that "there is another part of the nervous system not generally regarded as a mind-producing organ, * * * and that is the spinal cord." As Ribot says, and as Dr. Hammond does not deny, this is an old idea.

Ordinarily, when we refer to the mind, we mean the conscious intellect, the conscious reasoning ability, but Dr. Hammond and the other writers mentioned, have so extended the scope of mind-action that the expression becomes vague and indefinite. They should give us some term applicable to the conscious reason as a substitute for the one taken from us.

In regard to reflex action, all nerve-centres are more or less under the control of volition, though capable of originating nerve-force independently of the brain. As Maudsley expresses it, "acts consciously designed at first, may, by repetition, become unconscious and automatic, the faculties of them being organized in the constitution of the nerve-centres, and they being then performed as reflex effects of an external stimulus."

Any great, sudden, or long-continued influence acting upon the centres of conscious cerebration will produce more or less change in the human economy by the force transmitted from these cerebral centres to the sympathetic or vegetative nerve ganglia; and thus, diseased states of the organs supplied by these centres, and diseased states of the centres themselves, are explained without resorting to the hypothesis of mind production by the sympathetic ganglia. It is the very ability of these centres to act without mind, to which we owe the possibility of sleeping, resting the brain; the possibility of relaxing an otherwise unceasing consciousness, without the cessation of the action of the heart and all other organs and tissues upon which life depends; the very possibility of living.

The reflex action noticeable in the cold-blooded and some of the warm-blooded animals—more or less pronounced—even though it is apparently under control of the volition, is probably because these lower classes of organisms live a life more largely the result of hereditary habit, transmitted instinct,* than the higher, warm-blooded animals. The whole life of such creatures is so far devoid of intellect—ability to think and reason—as to require a large amount of this unconscious power to live, this involuntary vitality. This is demonstrated in the case of snakes, pigeons, ducks, etc., mentioned by Dr. Hammond.

Little intellect is required for the preservation and continuance of the life of these individuals, hence the involuntary nerve-centres are so constructed—the involuntary, hereditary habits being so large an element of their life—as to be capable of acting for them to a certain degree, as the conscious intellect is intended for higher organisms. It meets their requirements.

Reflex action becomes less the *guiding* influence the higher we rise in the scale of consciousness; it is idealess. Of the brainless pigeon illustration, Dr. Maudsley says: "It is quite evident from this experiment that general sensibility and special sensations are possible after the removal of the hemispheres; but they are not then transferred into ideas."

The performance of two things at the same time, by one individual—as cited by Dr. Hammond—while the consciousness is occupied by one of the acts solely, may be explained on the principle of automatism.

Assuming the theory adopted by Dr. Hammond to be correct, we must recognize the generation of two kinds of mind, one by the nerve-centres of conscious, volitional intellect—the centres of idea formation—the other by the reflex centres—the centres of unconscious nervous activity—the idealess centres. Nothing, therefore, is gained by this comparatively new theory, for we may properly refuse to dignify the nerve-force generated by the reflex centres, as mind, and limit our use of the term to the nerve-force generated by the ideational centres.

Surely there is a wide difference between the results of nerve-force, generated by the various centres of

* Heredity may possibly be explained by the special arrangement of cells in the nerve-centres, upon whose activity the inherited habit depends.

gray nerve-tissue — *e. g.*, intestinal peristalsis — and voluntary thought; the writhings of a decapitated crotalus, and the speculative abstractions of a Hegel. According to this theory, any expression in common use relating to the mind, *e. g.*, the sentence containing "since the human mind," as used on page six of the lecture under discussion, is indefinite, having no import unless that part of the nervous system is mentioned which generates the particular form of mind in question.

Even the highest action performed by the various brainless animals, including the acephala also, are connected with self-preservation in some form; all this class of functions is common to all representatives of organic life, so that this reflex activity is simply the manifestation of vegetative strength. It is the extreme illustration of concrete vitality, while the expressed forms of conscious thought are the extreme illustration of abstract vitality.

Dr. Hammond says: "If the mind and the soul are identical, all those predisposing causes inherent in the parents, and which are capable of causing imbecility and idiocy in the offspring, are also capable of damaging the immortal soul that we believe God has given to every human being."

No doubt this is a logical conclusion, if the Doctor's assumption of the nature of mind be true—and if the mind and soul be identical—but if we reject the hypothesis, this alarming danger from heredity loses much of its startling character. Heredity is an important element in the formation of character, but, as already suggested, it is purely dependent upon physical organization, the development of the nerve-centres. Pertinently to this point, Ribot remarks: "As I think there is no spiritualist who would deny the influence of the organism upon our tendencies, our passions, our ideas, and our aptitudes, and as organism is inherited, it is a matter of course that the influence of heredity must make itself felt at least mediately upon our psychological constitution. Common experience made this discovery a long time ago; it remains for science to define and explain it."

Did we accept the ideas of Dr. Hammond and those believing in common with him concerning the mind, we would, as before stated, qualify our acceptance by considering mind as the result of activity of the ideational centres; automatism we would consider to be the nerve-force generated by the idealess, involuntary nerve-centres. Agreement with Dr. Hammond—assuming man to be the only animal having a soul—compels us to believe that the soul exists as independent of the mind, not accountable for any kind of mental action, good or bad; that our individuality makes no impression upon the soul; and therefore it must begin an eternity wholly ignorant of having borne any relation whatsoever to the mortal body, of which it is considered the spiritual representative.

If we deny this belief, then there is no bar to the supposition that all organic beings have souls; or we are left the only other alternative, of believing there is no such thing as soul.

"It would be presumption," says Dr. Hammond, "in us to say that the soul of the veriest idiot that breathes is not as pure and as high in the scale of souls as that of a Plato or a Newton."

Concerning the comparative purity of the soul of an idiot and that of a "Plato or a Newton," we can say nothing—ability and accountability are, presumably, justly proportioned—but I can see no presumption in supposing the soul of a "Plato or a Newton" to stand higher in "the scale of souls" than that of the idiot. Though such a thing as a "scale of souls" is rather an incongruous idea to be evolved from this theory of mind. Because, as is obvious, if all souls are equally pure on entering the future life (unimpressed by any course of life pursued by the body of which it was the former tenant) difference in degree of soul life is impossible.

We can neither prove nor disprove the existence of a soul, but, with Dr. Hammond, we so strongly hope for the affirmative that the hope amounts to a belief. This is the one subject upon which we are justified in shaping our theory to suit our wish. We assume man to possess both mind and soul at his birth. Mind stands in the same relation to the soul that the brain does to the body. At birth the mind and soul are dormant, or in an embryonic state, just as are nearly all the nerve-centres and many organs of the body. As the nerve-centres develop so does the mind develop. The centres of vegetative life being capable of sustaining the physical life, they are the first nerve-centres to develop. As impressions are made upon the organs of special sense—the eye, the ear, etc.—they are referred to the ganglionic centres which supply these organs with nervous force, and which receive the impressions from them; from thence these impressions are referred to the centres of higher life, the voluntary, cerebral centres—which are assuming form, and more or less intricate development—for judgment as to the course to be pursued in relation to the new experience.

In the early stages of infantile life no judgment of a new experience can be formed, because of imperfect development of the nerve-centres and insufficient experience, and hence, action is inco-ordinate, but soon definite purpose is discernible in his movements, and the child, from association, comparison, analysis, etc., of ideas, shows an understanding of his line of conduct which, physically, becomes more perfect as he nears adolescence. This reference of an impression, from the organs of special sense, to the centres of

conscious thought, is simultaneously submitted to the mind, which exists not as a disconnected something, isolated, but as a co-existence with the brain—incorporate with the brain—to be educated *through* the brain. The mind thus grows with the development of the brain, which acts simply as a medium for conveying information—impressions—from the external world to the mind. The brain also acts as a transmitter of ideas from the mind to the material world, *i. e.*, through other brains to other minds, which exhibit the result by reacting upon matter in a variety of ways. Thus: a man has received impressions from certain things more or less closely related, from which he evolves ideas, new to him; he makes his construction known to the world, and more or less good results therefrom. From this, another man has a train of thought awakened, and he is followed by another original thinker, who in turn has a successor; and so the transmission of thought continues through an endless chain of ideas, with more or less action upon inanimate matter.

As the brain is educated so is the mind educated; and though the nerve-tracks and gray centres over which thoughts, good or bad, have travelled (it may be thousands of times) may become diseased and nerve-life deranged, or these centres even be destroyed and conscious memory fade, yet the mind is unharmed; the mind is clear and strong and has lost nothing save an intelligent connection between itself and the external world. The medium only is deranged; all that we have learned is stored in this indestructible casket for all eternity.

Obviously, we are not simply educating our brains for the good or evil of our temporal existence, but we are also educating our minds for the future state of our souls.

The question may now properly be asked, What is the soul?

As we have assumed so much, we will go a step further and assume a little more. As the mind is to the brain, so is the soul to the body. The soul is the spiritual body.

A future life without individuality is not a pleasant anticipation—it is the Nirvana of the Buddhist—and unless we assume a definite form for the soul, distinct from its surroundings, we cannot conceive of it continuing a future spiritual existence as an entity. In fact, unless we are to preserve a spiritually tangible individuality, perceptible to our own and the souls of others, we are practically soulless. It is here unnecessary to speculate further than this.

It may be suggested that my argument is open to one of the same objections as Dr. Hammond's, inasmuch as I have said nothing to refute the idea of all animals having minds and souls. It is true, I have said nothing opposing the idea; in fact, I have but one argument to offer against such a belief, and it is that the consciousness of the *ego* is the vital point of differentiation between soul and no soul.

To some it may appear, from such a statement, that the consciousness of the *ego* is really the soul; but I do not intend to convey such an idea. I mean, that the fact of the existence of this consciousness proves the existence of a soul just as the beating of the heart, or respiration, indicates the presence of vital force in the body; neither constitutes the life of the body any more than egoistic consciousness constitutes the soul. The brains of animals act automatically to a great degree, and we are not prepared to say that the gray nerve-tissue may not originate a limited number of ideas independently of a co-existing soul and mind. Assuming this to be the case we can understand how it is that some animals have been known to show signs of departure from instinctive habit by manifesting a limited degree of thought in their actions. There is, of course, nothing to cause us to suppose that animals ever become conscious of themselves as separated from their surroundings. If it can be demonstrated that they have this consciousness, and are able in consequence to comprehend other complex abstractions, then I see no reason to doubt that such animals have souls. As a consciousness of the *ego* can never be proved to exist in animals below man, we are tolerably safe in assuming man to be the only possessor of a soul, in the animal kingdom.

These abstractions may be considered useless, and they certainly are not scientific, but I have made these suggestions—especially those pertaining to mind and brain in the earlier part of the remarks—to show the equally unscientific statements of Dr. Hammond to be extremely questionable or at least no more worthy of support than the views I have advanced.

Unless we limit mind to conscious intelligence, we must divide it into conscious and unconscious mind; otherwise disastrous confusion of both legal and moral accountability must necessarily arise.

An interesting thought suggests itself just here: in the relation of mind to insanity, whichever theory we accept, the derangement is not a disease of the mind, but of the brain. In the one theory it is the diseased generator; in the other it is the diseased medium of transmission of ideas, whereby the ideas are misinterpreted, or in some manner defectively transmitted. For the condition then, ordinarily called dementia, I would coin the term *obstrumentia*; it may exist in various degrees of completeness.

According to one theory, mind is purely the *result* of activity of the nerve-centres; according to the other theory, mind may *cause* this activity.

We may speculate as much as we choose regarding the mind—a pleasing, hopeful, and logical theory is

not objectionable—but we should not lose sight of the fact expressed by Maudsley, that "we know not, and perhaps never shall know, what mind is." And as stated by Ribot: "as for 'the substance of the mind,' considered independently of its modes, we can know nothing about it, for such knowledge is altogether out of the reach of human intellect."

Even though the secret should be discovered, we have no present means of *proving* its truth. If possible, we know less of the soul than of the mind.

The biologist of the future will probably tell us more of the mind than was ever suspected by the metaphysician of the past, but neither will ever answer fully the great problem.

We cannot demonstrate a correct theory of mind, neither can we demonstrate a correct theory of soul; least of all do we know anything of the actual relations of the mind to the body, or to the soul, or of the relations of any one of them to the others.

ROTTING FIBRIN, AND THE CRITICAL DAYS OF DISEASE.

By Rollin R. Gregg, M.D., Buffalo, N. Y.

In rotting fibrin I have found many strange and unexpected things. Not the least so is the fact that radical changes occur in the rotting process, or in the disintegration and reorganization of fibrin, again and again, under decay, every seven days; that is, such changes either beginning or culminating about every seventh day, through several weeks, and thereby corresponding in time to the critical days in fevers and many other acute diseases. All know that in typhoid and bilious fevers, and in other diseases as well, the critical days are the seventh, fourteenth, twenty-first, and so on, with two or three days of aggravations or liability thereto, and then remissions until the next seventh day, when aggravations are liable to come up again until convalescence is established, or death results. Well, it is evidently the laws or facts governing the disintegration of fibrin under decay that causes, or is closely connected with, these critical days in acute diseases and their periods of aggravations and ameliorations.

To understand this, we must first know much more about fibrin, under various conditions, than is generally known. Therefore, let us take fresh fibrin just stirred out of healthy blood, and thoroughly washed until nothing is left in it but pure fibrin. Then take a very small piece of this, spread very thinly upon a slide, and it will show, under the microscope, as consisting wholly of threads, cords and almost ropes of it, running in all directions, and much intertwined and interlaced with each other; also threads running out from cords, and cords and threads running out from ropes of it, as stays, in various directions. Having now seen how pure fibrin looks, or is organized, under such circumstances, take a small mass of it and put it into six or eight times its bulk of distilled water, and set it aside to rot at ordinary temperatures—say, from sixty to eighty degrees, and watch the results. Great changes will occur, or begin in it, every seven days. The loose and fine threads lying upon the surface of the mass may begin to break up a little into rods and granules in three or four days, perhaps in two or three days under favorable conditions. But it is not until about the seventh day that the whole mass begins to give way more fully under disintegration, which then goes on rapidly until about the tenth day, when the threads and cords of it are mostly all reached and broken up. From the tenth to the fourteenth day the time appears to be used in more fully disintegrating into granules the rods of all lengths that the threads of fibrin are first broken down into during the seven to ten days. Then about the fourteenth day these granules begin the rapid building up again of rods, clubs and threads of fibrin—far more commonly, however, the rods and clubs of it, they often appearing in great numbers clustered together. This action goes on from the fourteenth until about the twenty-first day, when these secondary rods and clubs of fibrin begin to break up into granules again, which process goes on for a week, or until they are mostly reduced back to granules, as before. Then the latter, or the granules, begin on or about the twenty-eighth day to build up rods again of a somewhat different appearance, or that mat together differently and produce a peculiar network that is very interesting to look upon. This network begins to break up in another week, and the fibrin returns into granules still again; but by this time the latter appear to have exhausted much of their activity and do not attempt much further regular work or organization, if it is pure fibrin that has been used for the experiment.

If pure blood is used, however, with distilled water added from time to time to supply sufficient fluid to keep the process going, the fibrin will go on through six, eight and ten weeks, with a change every week; that is, a breaking down into its granules one week, and then re-building into a different form in the main from the preceding for another week, then breaking down again for a week, and so on. I have watched this in rotting blood eight or nine weeks, with a change every week, and much more complicated developments than when pure fibrin was used. With rotting blood the later developments, after three or four weeks, are, indeed, far more interesting, and a higher order of organization is produced than is the case when only pure fibrin is used. The difference is this. In blood all the rich chemical elements exist,

in the right state and proportions, for the fibrin granules and their combinations to take and build up cell organizations of a much higher order than the mere rods, threads and net works that those granules alone will build and re-build themselves into, when they have nothing to feed upon, so to speak, that is, no other material to work with. I have some of the most beautiful specimens of cell-development that I have ever seen, produced in blood after six or eight weeks of rotting; four, six, eight and ten or more cells in line, of two to three times the diameter of red blood corpuscles, all about as red as venous blood corpuscles, and showing the marks of cleavage as finely as could be desired. Besides all this there were other developments of equal or greater interest, sprouting cells, etc., etc.; and all these things went on in periods of weeks, like the critical days in disease. With pure fibrin, on the contrary, there were no developments beyond the rods, threads and network; and, under some conditions, an arrangement of the threads into an exact semblance of the rootlets of miniature plants, ready to draw nutrition (had it been afforded) into a common centre for the growth of a new cell or a new structure. This I had forgotten to mention before, and it was apparently as high as the fibrin could go of itself in its efforts at organization without other material with which to carry on its work.

I have said it is apparently the laws or facts governing the disintegration of fibrin under decay that causes, or is closely connected with, the critical days in acute diseases and their periods of aggravations and ameliorations. Let us now make an application of the foregoing facts about fibrin, under decay, to explain this; and to do so we will take one of the simplest forms of congestive disease, viz., a common boil. All know the pathology of a boil, that it is a congestion of all the superficial and deep vessels of the part affected, with a complete stagnation of the blood in the congested vessels. Under such conditions the fibrin, at first in fluid form in the congested blood, soon begins an organization which does not end until the whole diseased part is enveloped in a dense impervious wall surrounding the festering mass and completely dividing it off from all the outside healthy tissues; also the congested mass is divided up into compartments by fibrin partitions, while threads and bands of fibrin run all through it. In speaking of the organization of fibrin in inflammatory blood into granules and threads, Lehmann says the process goes on in all congested parts "as soon as the blood ceases to circulate." Carpenter says that fibrin is poured out into and around all abscesses and there organizes into the impervious wall of the abscess; or, "if there be no sac formed around a collection of pus, this fluid infiltrates through the tissues," and "the tissues through which it percolates undergo rapid degeneration." But for this provision of nature in organizing a wall of fibrin around abscesses of all kinds, a simple boil would destroy a leg or an arm if upon one of those members; or a boil upon the neck, shoulders or chest would destroy life, by the pus percolating, under gravity, all down through the body, causing pus poisoning.

Very well; active suppuration begins in boils at the end of about one week; or then it is that the bands and partitions of fibrin, that form the compartments of dead corpuscles in the boil, begin to give way under the rotting process of inflammation, to allow the festering contents to gradually come together in mass, to finally suppurate, or rot, through the superficial tissues, in the course of the second week, and be discharged. The "core" of the boil consists of connective tissue (which is made primarily of fibrin) and adventitious fibrin poured out into its meshes during the inflammation, to be there organized, as stated, into threads, bands and partitions—and in severe boils it takes another week for this mass, as the "core," to be rotted out and discharged off. In large carbuncles, "frog felons," etc., the process goes on longer, and often requires several more weeks to complete the work, if the patient lives through it all. And all the so-called bacteria of boils and carbuncles are nothing but the broken threads of fibrin, resulting from the suppuration, or rotting, of the partitions of fibrin, of the bands and threads of it existing in all boils and carbuncles, and of the connective tissue of the part diseased, just as all other assumed bacteria of disease are broken fibrin.

We will now go a step further and apply our facts to internal and more complicated diseases. In all fevers there is congestion of some one or more of the mucous surfaces, often, indeed, congestion of a large part of some vital organ—and the whole inflammatory and suppurative process, if it comes to the latter, goes on, of course, much as it does in boils. In typhoid fever the mucous membrane of the intestines, Peyer's glands, and often other organs, or parts of organs, become congested and inflamed. In bilious fever the liver is congested more or less, also the stomach and often other parts or organs. In intermittent fever it is the spleen more especially, but sometimes the liver, stomach, etc., that is congested. Well, in all these cases fibrin is poured out from the blood, in fluid form, into and around the congested part or parts, as a protection to effectually separate the diseased from the healthy parts, just as it is into and around boils and carbuncles. And "as soon as the blood ceases to circulate" this fibrin, until then in fluid form, begins to fibrilate into threads which rapidly organize into cords, bands and partitions all through the congested mass—while in, or at the cir-

cumference of the mass, it—the fibrin—then organizes into the membrane that encloses all; or, as Carpenter puts it: "And thus it is that, while the central part of a mass of tissue, in which the inflammation has been most intense, suffers complete death, and is carried away in the suppurative process, the peripheral part, in which the violence of the inflammation has been less, becomes infiltrated with plastic matter poured out from the blood, and forms the solid and impermeable wall of the abscess." Next, in all the congested parts in fevers, the separate threads, cords and bands of fibrin begin to give way, or disintegrate, first, and in a few days, under the suppurative, or rotting, process of inflammation; while at the end of one week the partitions of fibrin, between some of the compartments in the most central or highly inflamed parts, begin to give way, if a resolution of the inflammation has not in the meantime been begun or established. This giving way of such partitions must, of necessity, disturb the organ in which it occurs very much, so as to cause a critical day, or period, in the disease. In the course of the second week more of the compartment partitions give way until by the end of that week the pus is ready to come to or through the surface of the organ to find an outlet, and this makes another critical day or period. In bilious fevers, where the inflammation runs high, the fever extends to only two or possibly three weeks, as all know, when convalescence must begin or death speedily follow.

In typhoid fevers, on the contrary, the inflammation is generally much less intense, and the process slower in consequence, just as I have often observed in rotting fibrin, that under lower temperatures, the process goes on more slowly than under higher temperatures—though still it runs in periods of weeks. But there is a much more thorough breaking up of fibrin by the end of the first week under higher than under lower temperatures. Besides, in typhoid fevers of a serious character, the disease is progressive in its seriousness. That is to say, at the end of the first week, when suppuration begins in the earliest congested parts, the system is much disturbed thereby, the fever increases in intensity, and, of course, under this increased disturbance there is an extension of the congestion to more of Peyer's glands, or to whole patches of them not previously involved. These go on through their week of primary congestion, when the shock to the system, of their beginning suppuration at the end of that week, so disturbs and lowers the vitality as to allow of the extension of congestion to another set of glands, or patches of them, as yet unaffected; and so the action will go on, week after week in critical periods, often to four or five, and sometimes to six, seven and eight or more weeks. And all this time it is the beginning of suppuration, or of the breaking up of fibrin, in successive sets of glands, or in sets of glands successively congested, as described, that governs and indicates the critical days, or the culmination of the critical periods. If, in the suppuration, the intestinal wall is perforated *outwardly*, and the pus discharged that way, instead of through the mucous membrane into the cavity of the intestine, to be thence safely carried away, then, of course, death is inevitable. In the mildest cases of typhoid fever only the mucous membrane of the intestines, and perhaps a few of Peyer's glands, will be congested, but all will end in resolution, with little or no suppuration. Then the case will improve rapidly during the second week, and the fever wholly cease on or before the beginning of the third week. Cases next in order of seriousness are those where more of the glands are congested, and go on to suppuration, but the process stops there, without another set becoming congested; then the case will begin to improve after the beginning of the third week. If, however, still another set of glands become congested during the suppuration of the second set, then the case cannot improve until the fourth week, and so on. And it is the duty of the physician, if called in time, to so treat his case as to check the congestion and cause it to begin to break up in resolution at the commencement of or during the second week, or, if not that, then at the beginning of or during the third week.

Recurring again to bilious fever, here the mass of congestion, if in the liver, is so much larger than it possibly can be in the small glands of the intestinal wall, that if such congested mass does not terminate, or begin to, in resolution, during the second week, it will go on to suppuration, and, because of the great extent of the organ involved, must end in speedy death—or, under favorable conditions, in a discharge of the pus through the bile ducts into the intestines and from there out of the body, without secondary congestion arising, and then, of course, with a reaction and convalescence. The same general facts apply, excepting in the course of outlet of the pus, to pneumonia and to other cases of large masses of congestion, if they go on to suppuration. And they must all, or nearly all, end in death or the beginning of convalescence at the end of, or soon after, the first suppuration, without secondary congestion. If a secondary congestion does occur, however, in such cases, it is then almost certain death. But in all these cases it is, as I have said, the beginning of the breaking up of the fibrin organized all through the congested, part that is closely connected with, if it does not govern, the critical days in all such diseases. Moreover, the connective tissue which extends everywhere through an organ, holding all its cells and other parts together firmly as an organ, begins its

breaking down under suppuration at the same time that the adventitiously organized fibrin in a congested part does; and the former, or the connective tissue, being wholly made of fibrin, and so important to the purposes of an organ, its giving way under suppuration must add greatly to the shock to that organ, and through that to the whole system, so as to increase the violence of critical periods and critical days in disease. There is still another point in this connection. When more or less of the organized fibrin, and the fibrin of the connective tissue, is broken down by suppuration, into its primary granules (especially if the pus be retained in the abscess a week or more), those granules, I have little doubt, begin to organize of themselves into rods and threads, the same as rotting pure fibrin out of the body; perhaps, also, they take other rich chemical elements in the pus and build up other cell structures of a higher order than themselves, within the abscess (as they do in rotting blood), so as to add another source of disturbance to the disease—though to do all this may require the presence of air. But the breaking down of fibrin and of the connective tissue in all suppurations, as described, is certain, and must influence greatly the diseased processes, and disturb the whole vital economy more or less in critical periods.

There are other important facts bearing in a general way upon this subject, or illustrating it, as applying to all organic nature, which may as well be given here in the following paragraphs. To wit: The good butcher, who understands his business, will provide a cool or cold place, not freezing, to hang his meat in, a week or ten days before offering it for sale. Why? Because it becomes much more tender and palatable in that time. How does it get more tender by so treating it? The connective tissue of the meat (being fibrin), and in itself very tough, or tenacious in holding all other tissues together firmly, begins to give way in its organization, if not at its granular unions, at the end of one week, in this, as in all other instances, and all becomes much more tender in consequence. At the same time the meat is rendered more juicy and palatable, and is better prepared for the stomach to disintegrate the mass, after it is taken into that organ. The connoisseur in preparing game for the table acts, of course, upon the same principle, and the longer the game or meat hangs without becoming tainted, or too dry, the more tender and better prepared for the stomach it is. These facts have been learned by simple observation, but, of course, without knowing the exact reason why, beyond the general fact of all meats becoming more tender and juicy in the time and way named.

Again, the seeds of all plants, at least of the higher plants, require the first week after put into the ground under the proper or natural conditions of moisture, heat, etc., to sprout. That is to say, the fibrin which constitutes the matrix of all seeds (holding their other contents together as the stroma of cancers—which is also fibrin—holds these morbid growths firmly together), requires the first week under rotting in the ground, to break up its organization, so as to allow the germ of the seed to take the granules of fibrin (after the latter begins to break down into granules), and all the other rich contents of the seed, which such breaking down releases, and build up the plant until it can seize upon the nutrition in the soil, to sustain its subsequent growth. This assertion of the seeds of all plants containing fibrin is no assumption or fancy sketch. A scientific work published as late as 1883 says, that *eighty per cent.* of the crude gluten of all grains is fibrin. And this fibrin must be broken up from its firm organization in the grain, by rotting, before the seed when planted can sprout to grow. Therefore, is it not highly instructive, does it not open a broad view of nature, to see that fibrin in all instances—whether pure and put into distilled water to rot — whether under suppuration, or rotting, in the congestions of disease, so as to cause the critical days occurring therein—whether in the meat hung in the market to get tender—whether in seeds of plants placed in the ground to rot and grow—or whatever the conditions of its rotting in a natural way—always requires just a week, or about that, to begin to break down into its integral parts and get ready to build up again into other structures, the second or third week, under all circumstances that will allow of it?

But this is not all. The period of incubation of all contagious diseases is about seven days; just the same length of time again that is required to bring about changes in fibrin under all other natural conditions leading to its disintegration and reorganization again and again—of itself alone in distilled water for three or four weeks, or indefinitely if it has other and the proper materials and the requisite conditions to enable it to go on. That is, the vitality—or the fibrin, which is it—receives the impression of the poison of a contagious disease and develops it, or allows it to be developed (no matter what contagious poison it is or of what disease) in one week, or the same time that it requires the seed of a plant to incubate, sprout, and begin to grow under the proper conditions, and in the same length of time that the disease subsequently goes on in its critical days, until the case ends in convalescence or death.

In all this, then, we see one of those grand sweeps of nature that involve all organic life, not only in its very beginnings, in healthy building up, but also under many of its worst distresses in disease, down to death and disorganization of the whole organic fabric —successive periods of seven days and fibrin gov-

erning all the way through all the processes. Curiously enough, and directly applicable in this connection, Cazeaux gives a table of many cases, showing the length of time of human gestation in weeks; and the termination of nearly double the number of cases for any other time, was the fortieth week, 273 and 280 days, or multiples of seven. Or, as in other instances in the past, the finding of the key to a field of nature has opened that whole field in all its directions to our careful scrutiny, so in this, the simple rotting of fibrin and watching the results, have given a key to all organic life, in both health and disease, that must lead on to knowledge of both, that could never have been attained without it. The discovery of the law of gravity, and of Kepler's laws, opened the whole heavenly mechanism to us in a way that could never have been fathomed by other means; and other instances will occur to every intelligent reader, of what finding the key to other departments of nature has done for human knowledge.

From all this, and in conclusion, let us hope that the intricacies of disease may be more fully unfolded to us in the near future than they have been in the past; and that thereby, if not by other means, we may all reach a much better success in its treatment than has hitherto been attained.

CLINIQUE.

OVARIOTOMY AT THE HAHNEMANN HOSPITAL OF NEW YORK.

By James W. Ward, M.D., House Surgeon.

A few items of interest may be gleaned from the notes of four successive cases of abdominal section performed by Prof. Wm. Tod Helmuth within the last few weeks at the Hahnemann Hospital.

They elicit interest, mainly, because of their variety; the complications arising in the subsequent treatment and because of the late hour at which all, save one, submitted themselves to the operation.

In the first case Lawson Tait's operation was proposed, removing the uterine appendages and thus establishing the menopause.

Dr. Robert Battey, of Georgia, introduced an operation termed by him "normal ovariotomy," removing only the ovaries, allowing the tubes to remain.

While this accomplished the cessation of ovulation, it did not abolish menstruation or accomplish the desired purpose of determining the menopause. The object of the first operation which I record was to offer relief from a fibro-myoma of the uterus marked by imperfect ovulation, profuse leucorrhœal discharge and "excessive menstrual molimen."

The patient had long been under medical treatment with very limited relief, and her strength was gradually being reduced to the minimum by the discharges, leucorrhœal and menstrual, which alternated, and one of which was constantly present. The mental state was that of marked cheerfulness; the patient feeling assured of the successful issue of the adventure.

Tait's operation was recommended by Dr. Helmuth as the only means of removing the source of irritation. On section of the abdominal walls, an immense fibromyoma was brought into view with its purple, congested and distended appearance, and from which the mere accidental touch of the point of the scalpel caused for some time quite a smart hemorrhage. The left ovary with its tube, was obtained with ease, while the right being dislocated behind the uterus, was with great difficulty brought within the grasp of the operator.

Shock was combated with aconite 6. Right here let me say that for many months nothing save potencies of homœopathic medicines have been used in the Hahnemann Hospital in the treatment of shock.

The more closely the remedy has been chosen, the less need has been found for the employment of stimulants, a practice so popular in the treatment after large operations. After the operation a curious condition presented. In direct contrast to what had been the former tendencies of her life, marked insomnia arose, which readily was conquered by three doses of opium 6. The indication upon which the opium was prescribed was the great desire to sleep with inability to accomplish it, no other conditions being present.

A slight flow of blood from the vagina followed the operation, which gave place to a decreasing leucorrhœal discharge.

The only interruption of advancement lay in the formation of a circumscribed abscess between the peritoneum and abdominal muscles, which promptly yielded to treatment. She passed the time for one menstrual period while still in the hospital, with scarcely perceptible flow for a few hours, disappearing with no signs of the former menorrhagia. During convalescence she complained of a sense of weakness in the lumbar region, every motion of the body being constantly felt in the back, for which sepia 6 was given and gave permanent relief. For several nights near the close of her stay in the hospital, sleeplessness became again somewhat troublesome, nothing, however, being given for it until it became marked. When called to prescribe at 8 P.M. she was found crying, but upon interviewing a few moments this gave away to a smile. Her reason for not sleeping was the sensation she experienced of being about two inches from the bed, there suspended.

Ignatia 30 was administered to cover the mental condition. After two doses, at short intervals, she fell asleep for the night. I am not aware that this

sense of suspension is found in the provings of ignatia, but it certainly disappeared, and did not return.

The second case was that of a parovarian cyst, in a young lady of twenty summers. The diagnosis was made out chiefly by the inability to discover by microscopic examination any characteristic elements of ovarian cystoma. She was physically anæmic and mentally was not as buoyant as the former case or as hopeful as the third of this group. She bore no history of previous attacks of peritoneal inflammation. There being no adhesions, the tumor was removed with great celerity through an incision in the linea alba four inches in extent. Arsenicum 6 aided in the recovery from shock and was continued at long intervals till the stitches were removed on the ninth day. She progressed well until the eleventh day. At this time, without any concomitant symptoms an unaccountable rise of temperature occurred, which continued gradually increasing subject to some variation until at length it reached a morning temperature of 104⅘° on the sixteenth day. As the temperature did not yield to medicine, nascent phenic acid was hypodermically injected, forty minims morning and evening, according to the method of Declat.

On the morning of the sixteenth day, at one of the points made by the stitches, a small protuberance was noticeable from which, being punctured, exuded a drop of pus; more being discharged by gentle pressure. A fetid odor was especially noticeable on the morning of the detection of the pus. During the interval elapsing from the operation to the discovery of pus, the abdomen had been subjected to repeated examinations and especial attention had been directed towards the possible formation of abscesses along the margins of the wound. The rise of temperature was unaccompanied by perspiration of any import. No chill had preceded it. No weakness, insomnia or anorexia characterized the condition, and had it not been for this alarming temperature, no one could have even suspected any morbid systemic process.

It was deemed best to enlarge the opening and thus allow a free exit to the pus. She was again etherized and Dr. Helmuth made an incision one inch in length on the left of the cicatrix through the tissues into the abdominal cavity. A sponge holder armed with cotton was gently passed into the abdomen, resulting in an immense outflow of decomposed pus. About twenty ounces of morbid matter was discharged accompanied by several sloughs of various sizes. The abdomen was then syringed with a solution of carbolic acid 1⅟₀₀; a glass drainage tube inserted; the corrosive sublimate dressing reapplied and a stimulating diet ordered. Declat's nascent phenic acid was given hypodermically, fifty minims every eight hours.

The temperature within three hours had fallen to 100.3°, and gradually continued to approach the normal standard. The abdomen was syringed twice daily; the drainage tube removed on the day following the incision, and a tent of marine lint substituted. On the eighth day after the discharge of the pus, following a rectal enema, fæces were discovered to be passing through the abdominal wound. The discharge was liquid, having a distinct fæcal odor, and continued to pass for forty-eight hours. The bowels were allowed to rest for the following week, giving opportunity for the healing of the intestinal fistula, and upon again resorting to enemata to relieve the bowels, a movement resulted, but no fæces passed the abdominal wound. Phenic acid was gradually diminished in quantity and discontinued after four days following the discharge of the pus from the abdominal cavity. She left the hospital entirely cured and returned to her home, at some distance from New York.

In casting a retrospect over these details, one is impressed with the limited array of symptoms associated with so destructive a morbid process. The pus undoubtedly arose from the suppurating pedicle; the sloughs probably exfoliated from the pedicle above the knot; but how so extensive a sloughing, decomposing process could exist in the abdominal cavity in a patient already strikingly anæmic without arousing greater suspicion and alarm in the citadel of health admits less easily of explanation, and admonishes us to consider the possible action of the phenic acid in guarding against the toxic effects of the septicæmic and pyæmic processes.

The third case of this little group was that of a maiden lady of 45 years. She traces the origin of the tumor to a fall, five years ago. Had been confined to the bed since April, 1884, and had been the subject of several attacks of diffuse peritonitis.

She had been a constant sufferer, was physically anæmic, was troubled for weeks with partial insomnia, together with inability to regularly ingest nourishment, with a concomitant depraved assimilation of her food.

The mental condition was one of marked cheerfulness, which continued throughout the subsequent illness. This patient had been under the care of Dr. Belcher and Dr. Nott, and had presented all the symptoms belonging to a suppurating cyst of the ovary, and had been aspirated by Dr. Helmuth, on the 9th of September, 1883, the intense heat and the exhausted condition of the patient forbidding, at that time, the radical operation.

A large quantity of fluid, showing a superabundance of pus corpuscles and degenerate granular bodies, was removed and the patient was somewhat relieved. She was never, however, able to leave her bed, and was in a most exhausted condition when she came to

the hospital, being emaciated, anæmic and very much prostrated. Entering the hospital several days prior to the operation, she was ordered a nourishing diet, largely composed of beef. Each evening she was given a sponge bath, followed by an anointing with vaseline, that the skin should be excited to vigorous activity. For several months it has been my custom to order patients about to undergo ovariotomy a sponge bath each evening prior to the operation, followed by an anointing with oil or petroleum jelly. The patient's bowels are also freely moved by means of enemata, and the nurse is instructed to have the patient evacuate the urine before entering the operating room, in order that the bladder may fall behind the pubes, and thus be less endangered during the operation. In the case in question the usual preparatory injection was given ($\frac{1}{100}$ of a grain of atropia and $\frac{1}{6}$ of a grain of morphine in a solution of ten minims) one half hour before the operation.

An experience of two years with this injection, administered before operations of any magnitude, has convinced me of its efficacy in causing the patient to take less ether and to lie more quietly during the administration of the anæsthetic.

I have noted also that vomiting is less frequent during the etherization, and is always more easily subdued or reduced to the minimum subsequent to operation, which is a very important consideration, especially in ovariotomy. It must be also remarked that this method aids in aborting shock by establishing a general superficial capillary congestion. The patient was carried to the operating table and a polycysted tumor of the right ovary, in a very degenerate condition, weighing eighteen pounds was removed. Several adhesions existed near the umbilicus. The shock was combated by verat. alb. 6, and the reaction following by arsenicum 3. The temperature scarcely rose above 100.5° during the subsequent treatment, although the average temperature prior to her operation for several months had been 100.1°. The stitches were removed on the eighth day, and the wound had entirely healed by first intention, only one dressing being required. A catarrhal condition of the bowels had existed for some months prior to the operation, characterized by incarceration of flatus and consequent pain, relieved by pressing the spot of pain by the hand. Colocy. 30 promptly relieved this symptom. A troublesome, dry cough, produced by a sense of tickling in the throat, which was aggravated after midnight, with thirst for small drinks of water frequently, was cured by a few doses of arsenicum 30, after having existed for five months.

Here, again, we note some interesting features of the case: A patient, apparently exhausted by successive weeks of suffering, emaciated, helpless, confined to the bed, and one bearing but little evidence of recuperative power, passes uninterruptedly onward to a speedy convalescence, in direct contrast to one's natural conceptions of the case.

It may not be amiss to here note the favorable issue of those cases in which the mental condition prior and subsequent to the operation has been good. Perhaps it cannot be assumed that it is an unfailing sign of successful issue, but it has, at least to me, served as an index of favorable result. Within the last two years there has not been an unsuccessful case of ovariotomy in this institution where this mental state prevailed. I am not aware of any one that has called the attention of the profession to the mental condition as of prognostic value. It has served me to look for a favorable issue before the operation as positively as Keith's valuable indication of passing of gas on the third day does after the operation.

The fourth case, which is now about ready to leave the hospital, cured, was that of an unmarried woman, 49 years of age, who had always enjoyed good health until about a year ago, when an abdominal tumor appeared and grew rapidly. The diagnosis was readily made out and the tumor removed in the usual way. The operation was difficult, on account of the friability of the sac and the numerous adhesions anteriorly and posteriorly. The pedicle was double, each section being very broad and requiring to be tied in five sections. The tumor was a multilocular colloid cyst, well-marked in all diagnostic peculiarities of that variety of growth. Arsenicum 30 was used in the recovery from shock, which promptly relieved the great exhaustion, small, wiry pulse and thirst.

When the reaction became prominent, a full bounding pulse was noted, great restlessness, anxiety of mind, a rise of temperature to 101°; then aconite 30 was administered. The effect was most satisfactory, all the symptoms kindly yielding and the temperature was, within twenty-four hours, reduced to 100°, and gradually approached a normal standard. For nausea coming on towards evening, associated with a sense of oppression in the stomach and slight mental depression, puls. 30 was given, a single powder dry on the tongue, which relieved the above symptoms within a half hour from its being taken. A like condition recurred a few evenings subsequently, but was promptly relieved by the same remedy.

These three were my only remedies—she needed no others.

The same precautions and preparatory treatment that I have already noted were carried out most rigidly and with the same good result.

It may not be out of place to remark here, the great care which I always endeavor to take in the preparation of the room in which the operation is to be performed.

The assistants' and nurses' clothing and bed linen

are all thoroughly sprayed with $\frac{1}{60}$ solution of carbolic acid. It may also be of service to remark the especial need of having allowed the silk used at the operation, especially that for tying the pedicle, to be placed in carbolized oil of $\frac{1}{20}$ strength for several days before it is to be used. At the bottom of the glass containing the ligatures, there will be found a brownish precipitate containing particles of fibre resulting from the action of the acid upon the silk. The neglect of this precaution in two cases before its importance was recognized resulted in the formation of intra-abdominal abscesses and postponement of convalescence. In both cases from 6 to 8 weeks after the operation the pieces of unabsorbed silk came away and the patients rapidly recovered.

OBSTETRIC HINTS.

BY J. SAVAGE DELAVAN, M. D. (A. M. C., 1861), ALBANY, N. Y.

SECOND ARTICLE.

AN OBSTETRIC POUCH AND ITS CONTENTS.

ONE of the first lessons to be learned by the obstetrician is, as I have remarked in a former paper, to study *detail*, to be *exact*, and ready for any emergency that may arise, for the very first case to which the young physician may be summoned sometimes proves to be one where prompt and immediate measures are needed to save the life of either mother or child, or both.

The surgeon who goes to his patient's house to perform an operation, however slight and insignificant, would certainly be lacking in wisdom if he went unprepared with proper instruments, and would be severely and properly censured if, by the failure to be ready with necessary appliances, suffering and delay were occasioned that might easily have been prevented had he carried his *armamentarium* complete.

So the obstetrician should go to the lying-in chamber armed and equipped for *any* emergency; and though the thoughtless may laugh at and deride the conscientious and careful practitioner who prepares for the worst, even in the easiest labor, the latter will surely be repaid for his extra caution by the confidence reposed in him by his patients.

Later writers on obstetric science, notably Lusk, in his masterly and comprehensive manual, lay great stress on being ready with certain medicines, instruments and appliances, to be carried by the physician to each case of labor to which he is summoned.

A convenient pouch or bag can be obtained at any surgical instrument maker's, which will contain in a compact form all the necessary appliances, etc., that the obstetrician can possibly need, except in those rare cases where craniotomy or the Cæsarian section is required.

I present the form and contents of the obstetric pouch I have used myself for a considerable period, and which has been of great practical service to me in many cases of confinement.

The pouch is made somewhat of the form of a club bag, with solid metal sides to avoid crushing the contents, and can be easily obtained. It is long enough to contain the Elliot or any of the long forceps, and is divided, when open, into two compartments. The whole, when closed, is easily carried and not cumbersome.

The contents are as follows: on one side two pairs of forceps, long and short. My own contains the Elliot long and the Sawyer short, a pair of scissors with guarded point, for section of the cord; male and female catheters; a small *ecraseur;* needles, silk and silver wire in case, dressing forceps and a perinæum needle, safety pins and a roll of linen bobbin.

Those who have hunted and struggled to find, even in the best regulated families, a piece of string of sufficient strength and of proper size to tie the funis, and have perspired *copiously* in endeavoring to force a blunt pin through a new linen bandage, can appreciate the comfort of having these last two articles always on hand.

The other side or compartment contains a case of twelve remedies that may be needed. Two ounces of brandy, ditto of ether and chloroform, a bag containing sponges, absorbent cotton, a yard of elastic tubing, an inhaler, a hypodermic syringe, some one-grain opium pills, and vials containing fluid extract of ergot and a solution of carbolic acid for cleaning and disinfecting the hands and instruments. Some persulphate of iron, a tube of vaseline and a Davidson's syringe complete the equipment.

This is the writer's obstetric pouch; always ready; takes but little room in the carriage, and is easily carried in the hand at night. When summoned to a case of confinement, it is always carried and is ready when wanted.

I commend it to the profession, and assure my professional brethren, that while in many labors it is never opened, still I have had cases where every article I have named has been of the greatest service to me, and I would not omit one of them.

I recollect one case where the labor was retarded by an accumulation of hardened feces in the rectum, and no syringe of any kind could be obtained in the house or anywhere near it. My Davidson was ready, and the difficulty was soon overcome.

In another case, of severe flooding, the hypodermic syringe charged with fluid extract of ergot saved the patient's life.

I could give many other examples of the value of my pouch and its contents, but enough has been said to show good reason for its use and adoption by careful obstetricians.

The New York Medical Times.

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"*A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and* OUGHT *to be the* ONLY ACKNOWLEDGED RIGHT *of an individual to the exercise and honors of his profession.*"—Code of Medical Ethics, Amer. Med. Ass., Art. iv., Sec. 1.

Our practice is *not* "based on an exclusive dogma, to the *rejection* of he accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

THE CREDULOUS NEUROSIS.

WE make no claim to have discovered a new disease or morbid phenomenon in the above. The disorder we have thus characterized is associated with a phase of mental development which is not new—on the contrary, it is old—as old as the race of man. It is met with everywhere and among all classes and conditions of men. It is confined to no age or sex. The young and the old, the ignorant and the learned, the professors and the *prolétaires*, are alike its victims. While its existence is co-extensive with the human family, and is as common as the itch or measles, unlike the latter disease, it is not self-limited, nor easily gotten rid of. Of its nature and exciting cause or causes we know but little. That it has its seat in the nervous system, however, there can be no doubt. It is equally obvious that the peculiarity, or neurosis, is inherited—that it is propagated from father to son—and that it is characterized by an abnormal credulity.

We do not mean by this a tendency to believe. "Man bears beliefs as trees bear apples," and with equal wisdom. One may properly believe in the probable and rational, even in matters beyond his ken. The most learned and the wisest believe most. When one believes, however, in the improbable and irrational, the incredible and fictitious—such as Jonah and the whale, the cures by extremely infinitesimal doses, and by supernatural agency—he is simply *credulous*, and suffers, without knowing it, from the blight of a credulous neurosis. Such an one prefers fiction to fact, belief to knowledge. The more improbable the phenomenon, the stronger is his belief in it. He would as soon believe that Jonah swallowed the whale as that the whale swallowed Jonah, had it been so related and impressed on his childish fancy. He dreams dreams which he regards as verities. He affects familiarity with the Deity; hears voices when no one speaks to him, which he attributes to "the Lord," directing him to commit acts of folly, or deeds of violence. In brief, he is the happy victim of morbid fancies, of which he alone is the interpreter, and in which he would lose all interest if they were subjected to a rational analysis.

This is the religious phase of the neurosis, of which we may not speak. There is another phase of it, almost equally offensive to the rational sense, which may be observed among professed men of science—devoted followers of a scientific profession—physicians and medical students. It consists of extreme gullibility of traditions, oral or written, the unqualified acceptance of theories, doctrines and hypotheses propounded by medical oracles, either of the past or present. The victim of this neurosis never doubts what is laid down in his "guide" books. He makes a fetich of his master, be he Galen or Hahnemann, and humbly moves in the narrow orbit which his master proscribes for him. This mental peculiarity may be observed to-day in any class of medical students. No barnyard brood was ever more eager to swallow the crumbs thrown to it—crumbs good, bad and indifferent—than are the young scions of the medical schools to swallow the crumbs of mingled thought and fiction dispensed to them from professional chairs. In this respect the average practitioner is not much behind, or in advance, of the student. As to physicians of the old school, it is amazing to witness the degree of gullibility with which they accept the dicta of the oracles in respect of the curative virtues of the massive doses, compounded for them, in many instances, on purely empirical formulas. As to the new school the case is much worse. Its materia medica is a unique compound of truth and fiction, reliable observation and ill-founded conjecture, mixed in about equal proportions. Its therapeutics is blended of sound principles and wild vagaries—vagaries, which have been

exposed and dispelled by the advance of science—vagaries of so wild a character as to tax one's credulity to the utmost limit and to throw into the shade the most extravagant assumptions of mediæval mystics. Yet there are physicians—learned and reputable physicians—who, while they make no claim to comprehend or understand them, yet swallow them without effort. They would disdain to believe in miracles, yet they accept, without question, the exploded hypothesis of dynamization. The most extravagant claims are put forth by these infinitesimal doctrinaires of the occult powers of their high dilutions. The curative effects claimed for these extreme attenuations are allied to magic. Old adhesions are broken down, dislocations reduced, coryzas instantaneously relieved, the pangs of rheumatism banished, as by the enchanter's wand, and long-standing and frequently-recurring megrims dispelled, by attenuations so infinitely drawn out as not to contain the ghost of a drug-molecule. The agency of nature in these effects is entirely ignored. An advocate of these potencies assures the writer that a severe coryza with which he had been afflicted was instantaneously cured by a single sniff of the eight-hundredth potency of sulphur. Another declares to us that he had cured his child of typhoid fever by the five-thousandth potency of bryonia. He had trusted his own child entirely to that remedy and that potency. Verily, nature was kinder to him than he knew—kinder to him than the health authorities would have been had they known that a life was staked on an hypothesis! Still another believer in the doctrine of dynamization declared to us that he had cured—radically cured—an old sore leg, a leg whose tibia was honeycombed with caries—with a few minute pellets of the five-thousandth of cantharides. Yet another—but we forbear to multiply examples. These instances will suffice to illustrate what we mean by the credulous neurosis. While but a few of the medical profession are wholly exempt from the malady—if such it may be called—we maintain that its existence is a bar to medical progress. It indicates a degenerate condition of the thinking, inquiring, examining faculty, and disposes one to *believe*, when it would be better for one, and for one's patients, to doubt. And surely if any one may be skeptical—skeptical of curative agencies and methods—it is the physician. He should try all, weigh and measure everything, and hold fast to that which is demonstrably good and true.

LEGAL MEDICINE.

And still they come—memorials, petitions showered upon the Legislature with each returning session, praying that this or that law may be enacted to protect the public from the profession, and the profession from the public. Occasionally an act is passed, generally with no particular benefit to any one, but more frequently they fall still-born, because there is not innate vitality enough in them to last during the process of labor. One year every physician is required to belong to some county society, so that his brethren may keep a little legal watch over him, and if he does anything which conflicts with their interests or goes ahead too fast, trip him up. The next year, or the next decade, he is simply required to give evidence that he is a legally qualified physician, and register his name in the County Clerk's office. What will be the next step no one can tell. It seems to us that if the medical profession could fully appreciate the fact that its great power for good lies in its honesty, its intelligence and general culture, and that it requires no special legislation, except to place it upon a good business footing, it would be better for itself and better for the public.

The present law requiring every physician to register his name and his legal authority to practice his profession in the County Clerk's office is a very wise one and should remain, but we have not seen a single plan in all the proposed acts to confer upon the student the legal authority to practice medicine, which seems at all reasonable, or politic, or which is fair and honorable to the colleges, the public, and the profession. The act which is now before the Legislature, it seems to us, is just as crude, just as defective, and just as impolitic as those which preceding Legislatures have refused to ratify.

We believe in, and the Times has for years advocated, the policy of vesting the power to grant license to practice medicine in the hands of a board of examiners appointed by the Regents of the State. Thus far we are in accord with the provisions of this act, and if the appointment of the board was left entirely to the Regents, it seems to us the whole difficulty would be solved and we should have a law honorable and fair alike to all. But the act in question proposes to dictate to the Regents in what way the exam-

iners shall be appointed. The State is divided into two districts, each with a board of six examiners, two of whom shall be members of the Medical Society of the State of New York, but not connected with any medical college; two shall be connected as professors with regularly incorporated medical colleges, but not members of the County Medical Society, and the remaining two must have no connection with either colleges or the County Society.

It seems to us these provisions are not only puerile but insulting to the honesty, dignity and good sense of the Regents, the highest educational organization in the State. We sincerely hope in the not distant future we shall have a board of medical examiners, but we believe the Regents should have full power to select the members without being placed in leading strings by any act of legislation. We have sufficient confidence in the highest educational power in the State to believe their selection would be such as to commend itself to the good sense of the entire community.

We think that a board before whom every applicant for a license to practice medicine must come, would be composed of such men that the examinations would be perfectly fair and impartial.

The peculiar belief of different schools need not be for a single moment considered. A correct knowledge of the physiological action of drugs would, of course, be required, and that, so far as materia medica is concerned, should be quite enough to satisfy all schools. An act including such a provision as we have mentioned above we should be very glad to see become a law. Such a law would subject every student, no matter what were his antecedents, to precisely the same test without any attempt to fetter him as to the way he would use his knowledge in the great field of practice, and would be of immense advantage in levelling the walls of sect and building up and strengthening every department of our profession.

THE GRIPPE.

It is customary to designate almost all forms of acute naso-laryngeal catarrhal trouble as influenza. These attacks are often of short duration, traceable to atmospheric changes and requiring but little treatment; but occasionally we meet with an epidemic specific fever, early implicating the naso-laryngeal and bronchial mucous membrane, and in its complications and results not infrequently protracted, painful and of great fatality. To this trouble more specifically belongs the name of influenza or grippe, the former term having been given to it in Italy, in the seventeenth century, because it was attributed to the influence of the stars, and the latter in France, during the terrible epidemic of 1743, the word being derived from the Polish *grypka*. Both these names, more than many others, have passed into medical history. The disease is among the earliest accurately described in medical history, and in nearly every important treatise upon diseases of the air passages, from the time of Hippocrates to the present time, we have graphic pictures of this trouble occurring as epidemics in different parts of the world and spreading over large extents of country, oftentimes exceedingly fatal in its character.

During the administration of President Buchanan there was quite a severe epidemic spreading over a large extent of territory, which received the name of the "Buchanan grippe." Various causes have been assigned for it, but we are still nearly as much in the dark as we are as to the cause of cholera. The existence of a poison which affects in a peculiar and marked manner first the air passages and then the whole nervous and circulatory system is not denied, and the symptoms produced are so marked as to render the diagnosis comparatively simple. We are in the midst of an epidemic of this nature now, seen in the sudden and alarming attacks of congestion and inflammation of the naso-laryngeal and bronchial mucous membrane, and the fearful complications of pneumonia, meningitis, general nervous exhaustion and heart failure, of which we have had so many fatal cases during the past few months. In persons who are troubled with chronic bronchitis, fatty heart and general weakness the danger is great, but even when the patient is taken down suddenly from a condition of apparent robust physical health, the congestion may speedily become so violent, the breathing so difficult, and the expectoration so tough and tenacious as to endanger life. Patients do not convalesce rapidly from these attacks. The immediate acute symptoms, if taken in time, may have yielded promptly to treatment, but there is left a sensitiveness to atmospheric changes and a general weakness, muscular and nervous, which tells of the terrible

nature of the poison and the absolute necessity of the utmost care until complete recovery is established.

At no time, and in no disease is there a greater necessity for prompt and efficient medical treatment and the most implicit obedience to intelligent medical directions than at the present. Will power is not sufficient to gain the mastery here, but rest, absolute and entire, must be enforced, and remedies to control active congestion, to equalize the circulation, and to keep up the nerve power, must be administered with promptness and decision. Unfortunately, the physician, in these cases, is often called too late, the first symptoms having been disregarded until the grip of the disease has become too strong to be unloosed. This was undoubtedly the case with Dr. Damrosch, whose sudden death has filled the hearts of all lovers of musical art with sadness. Leaving his house just after the chill had passed off, going to his work, he was there struck down by a power which this time he could not resist. If he had remained in bed, keeping warm, even without any special treatment, he would, in all probability have recovered. Never was it more important for the physician to impress upon the minds of patients and friends the absolute necessity of care in daily life, of avoiding all kinds of excess, especially those which have a tendency to weaken digestion and nerve force, than during the prevalence of the present epidemic.

It is an interesting fact, which we believe is well established, although we can assign no cause for it, that cholera epidemics have been preceded by similar catarrhal troubles to those which prevail now. As cholera will, in all probability, reach us next summer, we shall be in a better condition to meet it if we rigidly enforce, during the coming months, the well-established rules for keeping the system in good working order.

IODIDE OF ARSENIC.

Our esteemed correspondent, Dr. John H. Clarke, of London, read before the Annual Homœopathic Congress in September, an exceeding interesting article, which has been recently published as a monograph, on the use of iodide of arsenic in diseases of the heart. The clinical cases given by Dr. Clarke show that in the iodide of arsenic we have a powerful agent in strengthening the heart muscle, weakened by general exhaustion and disease, and arresting the process of degeneration. The first case is one of mitral stenosis and incompetency, with angina, with sphygmographic tracings of the heart's beat before, during and after the use of the drug. The case was two years under observation and was restored to activity and comfort.

The author thinks in almost all cases of chronic weakness of the heart muscle, whether resulting from valvular disease or not, the iodide of arsenic, more than any other single medicine, will restore strength to the muscle and remove many of the attendant symptoms both cardiac and systemic, and when it fails to effect improvement in the specific heart symptoms it rarely fails to bring about improvement in the general health. It is given alone immediately after food, two or three grains of the second or third decimal, or in alternation with some remedy more particularly indicated by specific symptoms.

The sphere of action is entirely different from that of digitalis or convallaria, and of course will not take the place of either, but the very excellent results obtained from so careful and scientific an observer as Dr. Clarke warrant a more careful study of its general and specific action in both lung and heart disease. Of course, we do not expect to remove any organic change in the structure of the valves, but any remedy which will quiet the nervous action and strengthen the heart muscle will be looked on as a great gain in our repertory and exceedingly valuable in relieving the pain and oppression experienced in heart trouble and in prolonging life.

TOBACCO AND CANCER.

Almost every physician has met cases where the frequent pressure of the pipe or the cigar holder upon the lips, and the continual influence of the nicotine of the tobacco upon the mucous tissue of the lips and mouth have been followed by cancer. If there is one thing more than another in which a person is apt to be intemperate it is in the use of tobacco. It seems to blind the mind to what may be a deadly influence, and hold the will-power under its control.

Temperance is seen in the moderate use of the pleasures of life. It is only when they are carried to excess that they become masters and the poor victims slaves. Tobacco may never be the direct

cause of cancerous degeneration, but that it paves the way to it by creating a morbid condition of parts we have every day illustrations, which are apt to pass unheeded unless the victim occupies so high a position in the community, that the habit and the result are brought prominently before the public. Very recently a malignant case of epithelioma of the lip was brought to our notice which was developed precisely at the point of its contact with the cigar. Prompt and vigorous treatment was used, but the cancerous poison had extended to the glands and mouth, and death speedily ensued. The other day we cut out a horny excrescence from the lip of an old smoker. The tobacco throat and the tobacco heart are familiar to all, but these conditions are generally relieved by a discontinuance of the habit. Not so with epithelioma after it is fully developed, for that may defy our skill. When the cigar is looked upon as a daily necessity it becomes the most dangerous of tyrants.

THE NATIONAL MEDICAL LIBRARY.

Congress has finally passed the bill authorizing the building of a fire-proof structure, to cost $200,000, for the safe-keeping and preservation of the books, records and other possessions of the Medical Library and Museum belonging to the Surgeon-General's office. The books, pamphlets, and manuscripts belonging to this library, it is said, form the largest and most valuable collection of medical and surgical literature in existence. The Museum, like the Library, is said to be unexcelled in extent or value by any similar collection in the world. In the Surgeon-General's office are deposited the Surgical and Hospital records of the Union armies. These are in constant use as evidence in adjusting pension claims. Duplicates of them do not exist, and their destruction would entail an irreparable loss upon thousands of pension claimants as well as upon the Government.

All the collections are now kept in the building fomerly known as Ford's Theatre, in which President Lincoln was assassinated. This structure is a fire trap, and it is surrounded by old wooden buildings dry as tinder.

We congratulate Congress for the wisdom it has shown, even at this late day, in protecting property which could not be duplicated at any expense.

OUR STATE CHARITIES.

From the eighteenth annual report of the State Board of Charities, transmitted to the Legislature on January 27, the following interesting extracts are taken:

For a more systematic and better exercise of its visitorial powers, which extend to all charitable, correctional, and eleemosynary institutions, excepting State prisons, the work of the Board in this respect is largely prosecuted by its standing committees, appointed for the purpose. The several Commissioners make repeated visits to the institutions in their respective districts, and special committees are formed from time to time in order to facilitate this work. The officers of the Board, either alone or in company with its Commissioners, are also assigned to the visitation of institutions under its direction and established rules and regulations. In this manner a more general visitation of the institutions coming within its purview is made than could otherwise be effected, and the facts and information obtained are better collated than by individual effort, and thus rendered available to the Legislature.

By the Federal census of 1870, the population of this State was 4,382,759, and the number of insane 6,353, or one to every 689 of the population. In 1880, according to the Federal census, the population of the State reached 5,082,871, of whom 3,871,492 were native, and 1,211,379 foreign born. The whole number of insane in the State was 14,111; of these 7,790, or one to every 497 of the native population, were of native birth, and 6,321, or one to every 192 of the foreign population, of foreign birth.

While it is probable that there may be some increase in the proportional number of insane in the foreign population, induced by climatic changes and the hardships incident to immigration, the great disparity in this respect, as compared with the number of insane in the native population, cannot be wholly satisfactorily accounted for from these causes. Hence, we are forced to the conclusion that this country, and especially this State, are being constantly burdened with the insane of different European countries, or with persons from those countries so enfeebled by privation through successive generations as to become insane under slight exciting causes, deported from their homes by cities and towns, by relatives and

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friends, and by various emigration aid associations. We have frequently called attention to these facts, coming under observation in the visitation of our poor-houses, hospitals, asylums, and other charitable institutions, and we believe the matter demands positive and immediate corrective action. If this evil continues unchecked, our insane asylums, retreats, and other institutions of charity, already overflowing with the effete populations of Europe, ere the close of this decade will need to be greatly enlarged to meet the pressing demands of this class, which is nowise a legitimate charge upon the State, the public burdens of which are in consequence greatly increased.

The receipts of the State hospitals for the acute insane for the year ending September 30, 1884, were as follows: From the State, $55,473.64; from cities, counties and towns, $255,922.07; from the pay of private patients, $140,508.49; from all other sources, $74,032.48; total, $525,936.68, as against $527,804.82, the receipts for the year ending September 30, 1883. The disbursements during the year were $469,181.62, as against $463,460.15, expended the preceding year.

The returns, as has been seen, show that the State institutions for the insane, both acute and chronic, have little or no spare room, and that there is an immediate pressing demand for additional accommodations for this class. The county institutions, having the custody of the chronic insane only, are nearly all full, and there are also considerable numbers of insane in the county poor-houses, for whose oversight and care no proper facilities exist. The question, therefore, presses itself, what further provision shall be made by the State for its insane, and how can this be best and most readily accomplished? In view of the extended requirements of this class, we believe that any expenditures for this purpose should be so adjusted as to secure shelter for the greatest numbers practicable, consistent with their proper care and with due regard to economy.

We believe, therefore, that the present urgent demands of the State for its insane can be best, and most promptly and economically met by the extension of the Binghamton State Asylum, in the erection of plain, inexpensive, detached buildings, and the transfer to them of the chronic insane now in the State hospitals, that are not likely to be benefited by further treatment in these institutions. This would wholly relieve these hospitals, and give adequate room, for the present, at least, for all of the acute insane of the State seeking admission, in accordance with their original purposes and designs. It would also enable the transfer to the State of the chronic insane of such county poor-houses as are without proper conveniences for their care, and the removal from time to time of the filthy, violent, and troublesome cases from the counties providing for their chronic insane, under the exemption of this Board.

BIBLIOGRAPHICAL.

A SYSTEM OF PRACTICAL MEDICINE BY AMERICAN AUTHORS. Edited by William Pepper, M.D., LL.D., assisted by Louis Starr, M.D. Vol. I. Pathology and General Disease. Philadelphia: Lea Brothers & Co., 1885.

A comprehensive work on practical medicine, from an American standpoint, in which the various subjects treated are more fully discussed than is possible in a single volume of the ordinary sized text book has long been needed. We say from an American standpoint, because diseases are materially influenced in their origin and progress by geological and climacteric influences, and by the peculiar organization and habits of the people, and these diseases are more successfully studied and treated by direct observation than from theory or general principles. What might be good practice in England or in France or Germany might not always be good practice in America, and yet a large amount of the general scientific information gained in the study of disease and its causes could be utilized everywhere.

The work opens with a very able and carefully written chapter on Morbid Processes, by Reignald H. Fitz, M.D., including inflammations, thrombosis and embolism, effusions, degenerations, tuberculosis and morbid growths. The clear and logical presentation of these subjects in a single chapter forms a solid basis for the subsequent discussion of special morbid conditions. The following chapter by Henry Hartshorne, M.D., on General Etiology, Medical Diagnosis and Prognosis, shows a careful study of his subject, and is fully up to the times. The chapters upon Hygiene, by John S. Billings, M. D., and upon Drainage and Sewerage in their hygienic relations, by George E. Waring, Jr., which close the introductory part of the work, are of very marked value. Probably no one in this country, or in Europe, has given closer attention to these subjects than the gentlemen who have been employed to prepare these two chapters, and we have never seen them so ably and clearly discussed in so short a space as in this volume. Passing from the introductory chapters, the greater part of this volume is devoted to the discussion of that class of diseases which arise from special morbific agents operating from without. Each subject is presented in a concise and intelligent manner; the history, etiology, morbid anatomy and pathology include the most advanced views of the profession up to the present time. Thus far the work of editor and publisher are worthy of high praise for the matter and the elegant manner in which it is presented to the public.

BRAITHWAITE'S RETROSPECT.—The death of Dr. Braithwaite, who started the *Retrospect of Medicine* in 1840, and continued it until his death, occurred at his home in Leeds, January 31. The journal will be continued under the editorial care of Dr. James Braithwaite, the son of the founder, and will be republished in this country, as heretofore, by W. A. Townsend.

What a vast work for good in several ways is the great magazine publishing house of the *Century* Co. doing; what an uplift is it giving to good taste, good morals, good politics, and good manners, as well as to the dissemination of useful knowledge, to the culture of "the masses," to the comfort and peace and pleasure of home, to the welfare of society in general! No engine of the things that are true and pure and good is more mighty than a work like this; we ought all to be thankful that it is in such hands. Making money, of course, the *Century* Co. are; we are glad of it; but they are also making hearts happier, lives better, and homes brighter the world over.—*The Literary World*, Boston, Mass.

North American Review.—Murat Halstead contributes an article to the March number on "The Revival of Sectionalism." In the same number, Archdeacon Farrar presents his views on "Future Retribution," and Prof. N. K. Davis discusses "The Moral Aspects of Vivisection" in a way that brings together briefly nearly everything that any person of note has said on the subject. Max Müller describes the astonishing ideas of the Buddhists on the subject of Charity, and George John Romanes opens up a great subject with an article on "Mind in Men and Animals." The other articles are one by President Gilman on Titles (chiefly scholastic), one by Judge John A. Jameson on "Speculation in Politics," and one by John W. Johnston on "Railway Land-grants."

OBITUARY.

IN MEMORIAM.

RICHARD H. KEENE, Esq.

Richard H. Keene, Esq., of 12 East Fifty-sixth street, New York, entered into rest at the residence of his sister, Mrs. Mary K. Graves, Lexington, Ky., on January 31st, 1885.

Mr. Keene was for several years a member of the Board of Trustees of the Western Dispensary of this city, chairman of its House Committee, and devoted his heart and hand to its best interests. The following minute has been recorded in the archives of the institution:

"At a special meeting of the Board of Trustees of the Western Dispensary of the City of New York, held February 14th, 1885, the following resolutions were adopted:

"Whereas, Our late friend and associate, Mr. Richard H. Keene, has passed from a field of honor and usefulness here to that higher life to which we all aspire,

"*Resolved*, That while we shall miss his wise counsel and earnest, efficient labor in the institution under our charge, we will strive to profit by his example as a Christian gentleman and a conscientious and intelligent laborer in the great field of suffering humanity.

"*Resolved*, That we tender to the wife, whose companion has preceded her but a little while to that higher and purer life, of which this was but a sweet foretaste, our warmest sympathy, with the hope that she may feel that the life which was so dear to her, and which formed so large a share of her own, is still around her in memory and in spirit, like a benediction and a guide.

"*Resolved*, That these resolutions be sent to Mrs. Keene, and spread upon the minutes of the institution.

"By order of the board.

"Egbert Guernsey, M.D., *President*.
"W. C. Dornin, *of House Committee*."

Mr. Keene was a man of the strictest integrity, with the highest sense of justice, and, we may safely say, of unblemished character, and his name will go down to posterity to be honored, and his example to be emulated, as of the highest type. His charmingly genial and sympathetic manner won the respect, love and admiration of all who came in contact with him, old and young, rich and poor.

Requiescat in pace!

CORRESPONDENCE.

MEDICAL EDUCATION IN SCOTLAND.

To the Editors of the N. Y. Medical Times:

In the January number of your journal there appeared letters from Dr. Corson, Dr. Hanchett, and "H.R. S.," dealing with medical education in its various phases. One of these gentlemen has written with especial reference to this subject as it exists in Scotland at the present time The perusal of this latter communication has prompted the following remarks, which may prove of some interest to those who are laboring to promote medical reform in this country.

In considering this topic, the curriculum of the University of Edinburgh is chosen as a type of the methods of instruction pursued in the medical schools of Great Britain.

I. *Preliminary Examination.*—The preliminary branches of extra professional education are English, Latin, Arithmetic, the Elements of Mathematics and the Elements of Mechanics; and the proficiency of students in these branches is ascertained by examination, prior to the commencement of their medical study. No candidate is admitted to a professional examination who has not passed a satisfactory examination on at least two of the following subjects (in addition to the subjects mentioned above):—Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, Moral Philosophy: and the examination on these latter subjects also takes place before the candidate has entered on his medical curriculum.

II. *Curriculum of Medical Study.*—This embraces a period of four years dating from the time of passing the preliminary examination and is arranged as follows:

(*a*) A Summer Session consisting of three months, May, June and July.

(*b*) A Winter Session extending from October to April 1st, a Summer and a Winter session constituting an *Annus Medicus* or University Year. While a certain fixed path of study is used by all students as their guide, there are many deviations from this as regards the time and grouping of the various lectures. So in describing the curriculum of work it was thought best to give a plan which is in great favor with, and is commonly used by, the majority of students.

First Summer Session.—Botany and zoology, each 50 lectures. In many cases practical laboratory work is undertaken.

First Winter Session.—Chemistry, one hundred lectures; anatomy, one hundred lectures. Demonstrations. Dissecting. Hospital.

Second Summer Session.—Botany and zoology, each fifty lectures. Practical chemistry (three months). Anatomy. Dissecting.

Second Winter Session.—Anatomy, one hundred lectures. Demonstrations. Dissecting. Physiology, one hundred lectures. Clinical surgery, lectures twice weekly. Attend surgical wards as a dresser. Surgery, one hundred lectures.

Third Summer Session.—Anatomy, dissecting. Physiology—laboratory work (histology, embryology and other practical study). Materia Medica (practical), with practical pharmacy.

Practical Pathology.—Both microscopic and macroscopic methods of study being employed.

Clinical Surgery.—Twice weekly. Surgical wards, as before.

Third Winter Session.—Anatomy. Dissecting. Demonstrations.

Physiology (second time if the candidate desires it). Materia medica, one hundred lectures. Pathology, one hundred lectures. Clinical medicine and practice of physic lectures

may be taken out, if time will allow, or else postponed to next session. Hospital wards, both medical and surgical. Clinical surgery, twice weekly.

Fourth Summer Session.—Clinical medicine and clinical surgery. Lectures twice weekly.

Midwifery.—Lectures (extra-mural teacher). Practical Midwifery—Compulsory attendance on *at least* six labor cases.

Out-Door Dispensary—With personal attendance on patients for three months. Medical jurisprudence, fifty lectures. Gynæcological wards, with practical work. Tutorial classes in physical diagnosis. Medical wards, proper for clinics and examination of cases, etc. Lectures on diseases of the eye. Lectures on dermatology.

Fourth Winter Session.—Surgery, one hundred lectures. Practice of physic, one hundred lectures. Midwifery and diseases of women and children, one hundred lectures. Gynæcology and midwifery—practical. Clinical medicine, clinical surgery—twice weekly. Hospital daily. Surgical operations on the dead subject. Vaccination, at a recognized dispensary.

Fifth Summer Session.—Clinical medicine and surgery. Hospital. Attendance on post mortem examinations throughout the curriculum.

III. *Methods of Teaching.*—Wherever practical work in any branch is possible the class is divided into a number of sections consisting each of a dozen members. In this way the teaching is more thorough and each one goes to work under the eye of the instructor. If a mistake be made or erroneous views of the matter under consideration be held, there is a good opportunity to correct them. The student learns to acquire information and practical knowledge for himself through his own observations. In lecture rooms he attends daily and becomes accustomed to receive a certain amount of pabulum in the form of medical instruction. But the practical part is just as needful to his success as a practitioner as the theoretical. In many schools in this country physical diagnosis is taught in small classes, but how many compel their students to attend a fixed number of labor cases? In Edinburgh a certificate from a recognized dispensary must be obtained, stating that the student has attended personally, *at least*, six cases of midwifery. He does this with a senior student, who goes along to calm the nerves of the youthful attendant and to direct him in the treatment of the case. If any severe complication ensue they have the physician in charge of the dispensary always ready and willing to help them. When the graduate enters private practice he goes with some *practical* experience to a labor case and does not perform innumerable vaginal examinations, which only result in confusing him, because he does not even know the relation of a dilating os uteri to the surrounding parts—a practice which, unfortunately, is too common at the present day.

Again these tutorial classes are of particular value in such subjects as physical diagnosis; gynæcological examinations with the use of instruments proper to that branch; surgical operations upon the dead body; bandaging and splint operations; urinary analysis with its attendant microscopy, etc.

This method of teaching is used to great advantage in the study of the human skeleton and enables the student to master all those points in osteology which are so difficult to the beginner. Anyone wishing to dissect a part for the first time has to pass an examination on the bones of that region of the body before any dissecting material is allowed him. This ensures thoroughness in everything. In Anatomy great stress is laid upon what are called "Demonstrations." The different parts of the body are described just as we dissect them and each structure pointed out. This is in addition to the lectures (which are systematic) and dissections. In a winter session students dissect, say, an arm, a leg and the thorax. During the summer months—the abdomen and an extremity; so that the work goes on slowly and with great care. By the end of the third winter session the body will have been dissected twice. Even an apparently simple and trivial matter, such as vaccination, must be practically performed and a certificate of proficiency in that department must be obtained at a recognized dispensary.

The lectures are, of course, illustrated with everything which can assist the fixation of ideas or statements in the minds of the hearers. Text books may be used as adjuncts to the lectures but, of course, should never take the place of them. Lastly it has been the custom for students to take full notes of the lectures with copies of the illustrations, often colored with crayons, and thus impress the words of their teacher more firmly in their memory.

IV. *Methods of Examination.*—The examinations are of two kinds: (*a*) Class or competitive, and (*b*) Professional. The class competitions take place two to four times during a session, varying with the subject, and are upon the material embraced by the lectures. The object is to keep the men up to the standard of work and thus prepare better for the pass examinations. Medals and certificates of honor are awarded to those obtaining the best marks.

Professional or Pass Examinations.—These are three in number viz:—First, Second and Final.

The first professional examination in botany, chemistry and zoology comes at the begining of the second winter's session. It consists of a written and an oral part in each branch. In the oral room the candidate must identify all specimens such as plants, fruits, chemical substances, recognize any members of the vertebrata or invertebrata which may be handed him, and answer all questions suggested by the specimens. If the candidate fail, it means loss of time and the drudgery of having to work up these subjects again and appear six months or a year later. If he is successful, the next or second professional is due at the end of the third winter session and consists of an oral and a written part in each of these branches:—Anatomy, physiology, materia medica and pathology. The oral in Anatomy is very searching and is conducted upon the dissected subject. The oral in physiology consists of numerous questions, with identification of histological specimens under the microscope and the recognition of various instruments used in research. The tables of pathology and materia medica abound with specimens which afford an ample field for questions of the severest type. The written parts are usually made up of a few questions which must be completely answered. Coming to the *third* or *final examination* we have clinical medicine, clinical surgery, practice of physic, surgery, midwifery and diseases of women and medical jurisprudence (including public health). The clinical parts come first and are conducted in this way:—Each day about a dozen candidates are sent to the medical wards and draw lots for the bed patients, whom they have never seen before. Each man takes down the case in writing, giving diagnosis, prognosis and treatment. On finishing this he has an oral at the *bed side* upon any points in physical diagnosis which may be put to him. Next, the student is sent into a side room, where he finds ready for him: *First.*—Skin cases for diagnosis. *Second.*—Specimens of urine, the principal pathological contents (bile, blood, albumen, etc.) to be determined at sight. *Third.*—A number of microscopic preparations, such as urinary deposits, parasites, etc., for identification. The clinical surgery has also a case to be examined in the same way as the medical patients. In the side room

there are instruments to be recognized; an oral upon clinical work generally, and application of splints to the living, if required. The surgery proper has an oral and a written part, the former being made up of bandaging, with construction and application of splints, also of various instruments to be identified, and a pathological room where numerous questions are asked. The other subjects have also the written and oral parts, with all possible specimens, accompanied by practical questions.

In speaking about the first professional, I omitted to state that the candidates have also chemical substances given them for analysis. Failure in a single department of the last examination means rejection for a whole year. In every subject there are two examiners, the professor and an extra-mural teacher from some other school of medicine. This ensures a strictly impartial examination. Twenty-six times in a winter session and thirteen times in a summer session the lecturer calls for the cards of those present. As the students pass out the door they hand their cards to the janitor, who enters the names in the roll book. Absence from the lectures a certain number of times debars the student from his attendance certificate and prevents his appearing for examination at the proper time. After complying with numerous other regulations and passing his examinations the candidate is admitted to the degree of Bachelor of Medicine (M.B.) and Master of Surgery (C.M.). He then must spend two years in private practice, hospital work or research, write a thesis upon his own work or upon the researches of others, and, provided he has passed in Greek and logic or moral philosophy, the university confers upon him the degree of Doctor of Medicine (M.D).

T. L. SHEARER, M.B.

BALTIMORE, MD., Feb. 15, 1885.

THE FAITH CURE.

To the Editors of the N. Y. Medical Times:

As a further illustration of Dr. Guernsey's interesting article on "The Faith Cure," it has occurred to me that you might regard the following anecdote as worth recording: When Douglas Jerrold, one of the most distinguished humorists of the last generation, was a comparatively young man struggling to provide an existence for a wife and half a dozen children, he passed through a dangerous illness. His life was despaired of, and on his medical attendant telling him of his extremely critical position, he, by a great effort which seemed impossible for him to make by those who were around his bedside, sat upright and exclaimed, "Doctor I can't afford to die; I've a wife and six children to support; I can't afford to die, and I won't die!" From that moment he began to amend, and his recovery was both rapid and complete.

Yours truly,

ALFRED C. POPE.

TUNBRIDGE WELLS, January 12, 1885.

To the Editors of the N. Y. Medical Times:

I SHOULD like some information on hæmophilia. Will you kindly request such of your readers who may have experience in the treatment of purpura hæmorrhagica to please report their cases through the columns of the TIMES. Also please state the treatment adopted and the success.

I am, sir, Yours truly,

EDGAR SCHMIDT.

ST. PAUL, MINN., Feb. 9, 1885.

OUR LONDON LETTER.

To the Editors of the N. Y. Medical Times:

LIVERPOOL is to have its Homœopathic Hospital at last. Having long been in possession of the best worked and best appointed dispensaries in the country, it has been a continual wonder that Liverpool, such a centre of homœopathy, could not raise a hospital where the truly scientific treatment of patients could be carried out. Birmingham, where the number of adherents of homœopathy are far less numerous than in Liverpool, has long possessed a hospital devoted to the method of Hahnemann; and now the seaport is to take its place beside the inland town. Mr. Henry Tate, a Liverpool merchant, an enthusiastic adherent of Hahnemann, has given £10,000 to purchase a site, build and furnish a hospital. The institution will not be endowed, as Mr. Tate is of opinion that each generation should attend to the wants of its own poor, and thinks that support by subscription is the healthiest kind of support. The work will be proceeded with at once, and when completed is sure of a career of the utmost usefulness. Everyone hopes that Mr. Tate may see the fruits of his beneficence for many years to come.

The Committee of Management of the Birmingham Homœopathic Hospital have decided to form a nursing institution in connection therewith. Hitherto it has been nursed by fully qualified nurses. It is proposed in future to receive probationers who will receive instruction in nursing in the hospital, and until they are competent to take responsibility there, will work under the guidance of the older nurses. The success of a similar arrangement at the London Homœopathic Hospital argues well for the new venture.

Another veteran has gone. Dr. Adrian Stokes, of Exeter, died on the first of January, in the 70th year of his age. He was a native of Gloucestershire, where he practiced for several years, until, in 1852, he succeeded Dr. Hilbers in his practice at Liverpool, which town Dr. Hilbers was then leaving in order to settle in Brighton. Dr. Stokes removed to Southport in 1863, on account of his health, and retired to Exeter in 1877. He was associated with Dr. Drysdale and others in the work of the Cypher Repertory, the part "Back and Neck" being wholly his own.

The English cholera commission have returned, and the sole result of their labors is the discovery that the comma bacillus has nothing to do with causing cholera. Cholera missions are rather expensive luxuries if we look at their results. The previous year there was a cholera mission to Egypt. The result of this was a "report." Speaking of this precious outcome of the Commission's labors, the *British Medical Journal* recently said: "Probably nobody believes [it] outside the small circle of government officials."

Professor Tyndall has been lecturing. Lecturing is Professor Tyndall's forte. He can't help it. He has lectured Mr. Gladstone; he has lectured Mr. Chamberlain. He has told Mr. Gladstone he cannot any longer accord him his invaluable support. Professor Tyndall has been daily watching, since he made this announcement, for the fall of the great statesman, and daily his wonder grows that he is still on his legs.

"For John P.
Robinson, he
Says he won't vote for Governor B."

But Professor Tyndall is never so completely happy as when he is lecturing the general public—especially that part of the general public which fancies itself scientific—on medical affairs. As I am naturally fond of seeing people enjoy themselves, I lately went to see the great lecturer at the

Royal Institution dilate on germs. I say I went to *see* him; for I knew pretty well what he was going to *say*. It was a beautiful sight. The Professor enchanted his audience with magic lantern views of germs of the most approved orders, and he left them fully convinced on the following points: (1) That *spirillum* is undoubtedly the cause of relapsing fever—which, of course, is a very doubtful point indeed. (2) That Pasteur's sham "vaccinations" for anthrax was the most harmless of proceedings, and always succeeded in warding off attacks of the disease—the fact being that the "vaccinations" killed large numbers, and fail to protect the survivors, as Koch and others have shown. (3) That Pasteur has found a cure for hydrophobia—which, of course, he hasn't. The moral he drew from all these comforting assurances was that vivisection is a most humane occupation, and that he (Professor Tyndall) himself, in his tenderness for animals, is own brother to the poet Cowper. This must be true, because he said so! If he *hadn't* said so, I should have preferred the lot of a dog, or a hare, or a rabbit of the poet Cowper's to that of a dog, or a hare, or a rabbit of Professor Tyndall's. They are both alike to me now. Looked at as a *lecture* it was a great success.

Yours fraternally, JOHN H. CLARKE, M.D.

15 St. George's Terrace,
Gloucester Road, S. W., Feb. 3, 1885.

To the Editors of the N. Y. Medical Times:

SEVERAL references have been made in your columns to the value of pepsin, papayotin, etc., in dissolving the membrane of laryngeal diphtheria, but I do not remember having seen any directions given for applying these agents to the parts, though the atomizer is, I suppose, used for this purpose. May I ask if any of your readers have used the hypodermic syringe by introducing it directly through the windpipe, to apply a solution of the above solvents?

It has occurred to me that in some cases this expedient might avail, even where tracheotomy might seem to be indicated.

If proper care is taken in introducing the needle in the median line, and not too deeply, the mobility of the skin ought to be sufficient to prevent laceration of the mucous membrane by the point of the instrument, by proper manipulation of which the stream of liquid could be directed to almost any part of the larynx or trachea; especially if it be remembered that the stream from many needles makes an angle of about 135° with the instrument when forcibly ejected.

With reference to the recent article in your journal upon the value of circumcision as a prevention of hip-joint disease, permit me to state that, while enjoying the inestimable privileges of the Ward's Island Hospital, I saw in the wards a young Jew, in whom the first stage of hip-joint disease was as unmistakably present as the evidence that the rite mentioned had been most thoroughly and scrupulously performed.

B. H'B SLEGHT, M.D.

NEWARK, N. J., Jan. 20, 1885.

SOCIETY REPORTS.

AMERICAN SOCIETY FOR PSYCHICAL RESEARCH.

THE Society, the foundation of which is due to the initiation of Prof. W. F. Barrett, of Dublin, starts with a considerable number of adherents, about eighty members and fifty associates. Its headquarters are for the present in Boston, yet it has a widely distributed constituency which is growing rapidly, as the interest felt in the objects of the Society is very general. It is expected that an important part of the work of the Society will be done at Baltimore and Philadelphia.

The results of the investigations of the English Psychical Society, showing that there are many obscure phenomena of the mind by no means yet adequately explained, is familiar to many. The most remarkable of their announcements was the discovery of thought transference, mental images passing from one person to another without following any of the known channels of communication. As this is the most novel and startling of the published conclusions of the English Society, and as it offers varied opportunities for exact scientific experimentation, it has been decided to make the study of thought transference the first undertaking of the American Society. A committee has been appointed, with Dr. H. P. Bowditch as chairman, to conduct this investigation. A circular will shortly be issued stating the exact methods of experimentation, and asking coöperation. It may be mentioned that it is the policy of the Society to conduct all its investigations experimentally, in the belief that the most satisfactory results will be thus obtained; for the present, at least, it will not attempt to collect other evidence.

The Committee desires first to find sensitive persons, so called mind-readers, and to test the exact extent and conditions of their peculiar power, if it exists. They would try with such a person whether he could reproduce a simple drawing which a second person looked at intently, but which the sensitive or percipient could not see; whether he could identify a word upon which another person had concentrated his attention; if this is done the Committee will test the effect of distance between the two persons, of the interposition of various obstacles; use rigid conditions to exclude possible collusion, conscious or unconscious; study the influence of the number of persons who concentrate their attention upon the image the sensitive is to perceive, etc. All these and such other experiments as opportunity and experience may suggest will be work for the Committee itself, but they ask the coöperation of every one interested in bringing them into communication with persons who are supposed to have the faculty of "mind-reading."

The Committee hopes also to carry on a series of statistical researches which it trusts will be participated in by many besides themselves. Let an example suffice to indicate what is intended. Suppose two persons are together; a pack of cards is taken and turned up by one of them, card by card; as they are turned, the second person, who is placed so as to be unable to see the cards, guesses the suit. Now if there is any thought transference, the guesses must be right oftener when the first person knows the suit of the card turned up, than when he does not; he has therefore only to keep tally, and a comparison of the proportion of errors in the two circumstances will show whether thought transference occurs. To secure a certain result, however, a very large number of observations must be made, and it is desirable to have many observers. Professor Richet, of Paris, has already tried this form of experiment, and reached the conclusion that thought transference does take place.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

DR. HAMMOND'S paper on the opium habit contained some startling statistics touching the increase of the habit in this country, as shown by the largely increased consumption of the drug. In 1840, he said, the total quantity of opium consumed in the United States was about 20,000 pounds. In 1880 it had increased to 533,450 pounds. In 1868 it is estimated that there were from 80,000 to 100,000 victims of the opium habit in this country; now they number over 500,000. The growth of the habit has been rapid within the last few years, owing,

as Dr. Hammond thinks, to the invention of the hypodermic syringe, which has become a favorite method of administering the drug. More females than males are addicted to the use of the drug—the ratio being about three to one—women being subject to a larger number of painful ailments than men. From the time of the publication of De Quincey's "Confessions of an English Opium Eater," in 1821, until within a few years, the medical faculty had overlooked or ignored the serious consequences of the opium habit, and the people generally had come to look upon it as a comparatively harmless vice. It is now commanding more attention. Dr. Hammond described the effects, immediate and remote, of the opium habit, speaking, as he said, in some degree, from personal experience, having been induced to enter upon the habit to allay the miseries of sick headache. He concluded his paper by presenting his method of treatment for the cure of the habit, which he describes as a sudden reduction in the quantity of opium indulged in; not an immediate and total cessation of its use, which would be injurious, but a reduction in quantity covering a week or two weeks, and accompanied with stimulants of a different kind until a cure is effected.

Dr. Jacobi, of New York, said that he had been informed that the special committee on legislation, after a full debate, had agreed upon a report upon the bill to be presented to the Legislature touching a board of medical examiners, and in view of that fact he asked to withdraw the motion made by him yesterday with regard to the representation of medical colleges in the board. A resolution from the committee was unanimously adopted providing that the draft of the bill reported by the special committee shall be referred to the standing committee on legislation, with the following instructions: That the bill shall be presented to the Legislature after it has been amended so as to provide for one board of medical examiners, to consist of nine members, six of whom are to come from the Medical Society of the State of New York, of which six, three shall be selected from those not connected with incorporated medical colleges, and three from those who are members of faculties of incorporated medical colleges: the other three to come from the other two incorporated State medical societies in proportion to their just representation; the board to be appointed by the Regents of the University annually, without disqualification for reappointment; the following subjects to be included in the examination: anatomy, physiology, chemistry, pathology and the practice of medicine, surgery, midwifery, therapeutics; the pay of the examiners to be $800. Section 6 of the Health bill, relative to anonymous examinations, is adopted; the rest of the Heath bill to be modified to meet the above requirements; the whole to be carefully revised under competent legal advice.

Dr. Sherman, the president of the society, delivered the annual address before a large audience in the Assembly Chamber, the subject being "Medical Evidence."

"It has been remarked," said he "that a doctor who knows nothing of law and a lawyer who knows nothing of medicine are deficient in the requisite qualifications for their profession. The importance of medical and scientific knowledge is often illustrated in our courts of law, as in the case of Professor Webster, where a portion of a jawbone was the means of identifying the victim of a murder. To a certain extent the evidence of experts assumes the function of jurymen, since it makes up an opinion by which the jury is to be guided. For this reason, it should be received with caution, and the witness subjected to rigid cross-examination. There is no lack of literature on the subject of medical jurisprudence, much of it is furnished by medical men of this State, and yet it has not reached that rank and importance in the administration of justice that its importance demands. The medical witness should thoroughly prepare himself both in his medical knowledge and also in his knowledge of the law of evidence, before he ventures to give his opinion which is to be accepted as a fact by the jury. If he be not prepared, he had better acknowledge it rather than give testimony that would subject him to ridicule and perhaps disgrace. A medical witness should never give categorical answers to questions that cannot be properly answered without an explanation. He should demand the right to explain his answer, and the court will grant it."

A vote of thanks was given to Dr. Sherman, and the Society adjourned to the Delavan House, where the doctors partook of the annual dinner.

—The Homœopathic Medical Society of the State of New York held its thirty-fourth annual meeting in Albany, February 10 and 11 last, and elected the following officers: President, M. O. Terry, M.D., Utica; Vice-Presidents, A. P. Hollett, M.D., Havana; N. B. Covert, M.D., Geneva; George M. Dillow, M.D., New York. Secretary, John L. Moffat, M.D., Brooklyn; Treasurer, Edward S. Coburn, M.D., Troy. The next semi-annual meeting will be held September 8 and 9, at Grove Springs, Kenka Lake, Steuben Co., N. Y.

TRANSLATIONS, GLEANINGS, ETC.

NEUROSES OF THE GENITO-URINARY ORGANS.

By Prof. Robert Ultzmann, of Vienna.

Translated by W. Storm White, M. D.

Second Article.

Not unfrequently we find an increase of indican in the urine of neuroses. In individuals given to onanism, sometimes large quantities of indican are in the urine and even dried in the stains on their linen, resulting from their pollutions. These stains may even present blue or violet edges, from the large amount of indican. Large quantities of indican are also frequently found in the urine after excesses in venery and sexual excitements. It occurs frequently also in nervous and hysterical women. It is a recognized fact that much indican is found in the urine in diseases of the central nervous system, especially in cerebro-spinal meningitis (Oppolzer). The indican is usually found in solution, but it may occur as blue or blue-black scales or flakes in the sediment. The nitric acid test for albumen should attract our attention to the presence of indican, if it is in large quantity. We will find a narrow blue or bluish ring on the boundary between the colorless nitric acid and the urine, lying immediately above the ring of brown coloring matters. If this bluish zone is plainly visible, the Jaffe's test will always show the precipitation of indigo. This test is made in the following manner: to ten c.c. urine add ten c.c. hydrochloric acid, and to this mixture add one or two drops of cold saturated solution of chloride of lime. The indican will be precipitated immediately and color the mixture blue-black or violet. If several c.c. of chloroform (after Senator) be added and allowed to flow through the mixture several times, by inverting the *eprouvette*, the chloroform takes up the indican and becomes colored a beautiful blue. It is well known that indican may also appear in large quantities in the urine in diseases of the lower abdomen (peritonitis, incarceration, etc.). In a fatal case of peritonitis occurring in Prof. Löbel's ward, I saw a violet-colored urine,

XUM

not unlike red wine, from the presence of indican, having a markedly blue sediment.

Albumen is sometimes found in the urine in neuroses, though only rarely, and in small quantity. This albuminuria is usually only temporary, and seen after strong excitement, such as that found, for example, after an epileptic fit. Albuminuria can also be produced by injury to the floor of the fourth ventricle, and Coe suggests that the albuminuria of pregnancy is only a neurosis of the kidney. This latter supposition is to be accepted with the greatest caution, because, although it may answer for some individual cases, it will most assuredly not do so for the greater number of albuminurias occurring during gestation.

The urinary sediment is sometimes very characteristic in neuroses. Oxalate of lime is very frequently found in large quantities in such urines. It usually presents its colorless "envelope" crystalline form or its combination with the prism, yet not unfrequently it is just in these cases that we find the "hour-glass" or "dumb-bell," and spherical forms mingled with the various sized envelope crystals. I have more frequently seen oxalate of lime, and in larger quantities, in neuroses than in renal calculi. Therefore, regarding the formation of renal calculi, I attach much less importance to the oxalate of lime than I do to the spiculated uric acid crystals.

For years I have observed most copious sediments of oxalate of lime occurring in neuroses, without the appearance of symptoms of beginning calculus in the kidney.

Another urinary sediment, which occasionally appears in neutral or weakly alkaline urines consists of amorphous or finely granular carbonate of lime mixed with amorphous phosphate of lime.

The white, finely-powdered sediment dissolves, in the micro-chemical test, on the addition of a drop of acetic acid, with the evolution of more or less bubbles of carbonic acid gas. We also occasionally find small, colorless, wedge-shaped crystals, whose broad bases are cut obliquely, mingled with the above amorphous sediment. These are crystalline phosphate of lime. The crystals sometimes appear singly, sometimes so arranged side by side that the apices converge to a point, thus forming rosettes or sheaves. As a rare sediment we occasionally find crystalline phosphate of magnesia mixed with the crystalline phosphate of lime. These usually appear as elongated quadrilateral tables, whose two opposite angles appear blunted. Besides, we find all these forms of crystalline earthy phosphates in the urine after the use of fixed alkalies, free or in mineral waters.

The appearance of spermatozoa in the sediment is not a rare occurrence. They are found in great numbers in the urine in spermatorrhœa, yet they are also found singly in other neuroses of the urinary tract.

Finally, as above stated, we not unfrequently find indican in the sediment of such urines, in blue or blue-black scales or flakes. Sometimes the indican is precipitated in such quantity that the sediment appears blue. This appearance, however, is rare. In a case of tabes and paralysis of the bladder, I had the opportunity of observing a blue indican-stained sediment for a considerable period of time. Then the glycosuria suddenly disappeared. This same patient also once suffered temporarily from glycosuria, producing two per cent. of sugar, without polyuria or other diabetic symptoms. If urates, particularly urates of ammonia, are present in the sediment they will carry the indican with them, being in their usual characteristic forms, but colored blue or violet.

The neuroses of the urinary and genital organs are divided into three groups:

1. Neuroses of sensibility,
2. Neuroses of motility, and
3. Neuroses of secretory function.

According to this division, we will describe the neuroses of each group, first of the urinary apparatus and then those of the genital organs.

(*a*) THE SENSATORY NEUROSES, which relate most intimately to the *urinary apparatus*, sometimes confine themselves to the urethra and to the bladder, sometimes, however, appearing as cutaneous hyperæthesias in the neighborhood of the external urinary organs. The patient sometimes feels a troublesome burning in the urethra, particularly in the pars pendula and around the fossa navicularis. This burning is either continuous or occurs for a short time during and after micturition. Occasionally the patient only complains of an increased sensibility or a *wounded* feeling in the urethra (hyperæsthesia urethræ). Not infrequently this sensitiveness increases and becomes a periodically recurring sticking pain, causing the patient to feel as if a red hot wire were being forced from the rectum towards the glans penis (neuralgia urethræ). The neuralgic pains frequently appear during and after micturition, especially if the penis is slightly compressed by the fingers.

The cutaneous hyperæsthesia is usually restricted to the skin of the penis itself, and of the mons veneris. Occasionally, however, the patient complains of different sensations over the abdomen, buttocks and thigh. Sometimes they complain of a burning, pricking or great sensitiveness of the whole skin; at others of a feeling of numbness and weakness. In rare cases, a general reflex irritability is developed, such as is otherwise to be found, in such a degree, only in hysterical females.

The patient usually traces this back to a gonorrhœa, usually of long duration, and associated with orchitis and catarrh of the bladder. Nothing abnormal in the prostate is to be found by rectal examination. The urine either presents no abnormal relations, or it contains one of the substances which we have before described.

The urine not unfrequently shows earthy phosphates precipitable by heat. At the same time we usually find a greater or less number of gonorrhœa fibres (Tripperfäden), especially the short and thick or nodulated, nail-like fibres which usually originate in the pars prostatica urethræ. It is also known that hyperæsthesia or neuralgia of the urethræ occurs in different diseases of the prostate. I have found the highest grade of sensitiveness in the penis, particularly in the glans, in patients suffering from new growths in the region of the prostate and neck of the bladder. Greatly increased sensibility is sometimes discovered by the sound in the pars prostatica.

Hyperæsthesia and neuralgia of the bladder is usually a symptom in cramps of the bladder, and will therefore be described with the latter in speaking of the motor neuroses.

These sensatory neuroses, occurring after a gonorrhœa, are usually reflex and may easily be associated with prostatitis catarrhalis. The discharge of numerous short, thick gonorrhœa fibres at the commencement of micturition, and the absence of even the least amount of secretion from the urethra (*goutte militaire*) indicate with certainty that the diseased part is in the neighborhood of the sphincter, that is, in a spot which is usually closed by the muscle and only opened by the passage of urine. Improvement is, therefore, immediate when the pars prostatica urethræ and prostate are treated locally. Besides warm baths and hip baths, we can

recommend compresses of warm water or chamomile tea (280° R.) two or three times a day, in connection with local treatment of the pars prostatica. This latter is accomplished by introducing astringents, or even nitrate of silver solutions by instruments into the pars prostatica. I generally use a short metallic catheter, which I had made for this purpose. The catheter is 16 c.m. long and Charrière No. 16 in thickness. The vesical end presents the usual medium curvature found in metallic catheters, is rounded off smooth and perforated like a sieve. The outer end has a round disk and rubber tube. The catheter is only introduced so far that the point lies in the pars membranacea (that is anterior to the prostate). The disk prevents a deeper introduction and serves to close the outer opening of the urethra. A mark on the disk serves to show the direction taken by the vesical extremity in introducing. When the catheter has been passed into the pars membranacea it is joined to an ordinary syringe, hoiding 100 grammes of fluid, by means of the rubber tube. The catheter is fixed in position with the left hand, and the fluid is forced slowly through the pars prostatica into the bladder, under gentle pressure. If the end of the catheter lies in the membranous portion, the fluid can always be forced through the prostatic, because the instrument is partially within the looped sphincter, which is thereby rendered incapable of offering further resistance.

If, however, the point of the catheter is still in the bulbus it will be impossible to force the fluid through the pars prostatica even by exerting great force. The fluid will either flow back beside the catheter or it will painfully distend the urethra. The injection through the pars prostatica should be made once a day, or at least every other day. For the first and second injections, I always use 100 grams (the syringe full) of from one-quarter to one-half per cent. carbolic acid solution, and afterwards proceed to a one-half per cent. of zinc solution, gradually increasing this to three, four or five per cent. solutions, as the patient becomes accustomed to the injections. I always have the patient empty his bladder both before and after the operation. I have also used one-half, one and two per cent. solutions of tannic acid, but I have found that the zinc solution, or the combination of zinc and alum, has been more effective. Instruments similar to mine, both sounds and catheters, have long been used for these same cases, as, for example, by Guyon and recently by Gross.

The patient always feels better after a few injections, and after awhile demands them most impatiently. These injections are most efficacious in males having symptoms similar to those developed in hysterical females. We not infrequently find men, who have had a long-lasting gonorrhœa, especially if complicated with orchitis or catarrh of the bladder, suddenly becoming moody, melancholy; they no more relish their daily work, which was formerly necessary to their happiness; they complain of a feeling of weakness in their limbs, and of different sensations in the lower abdomen, in the urinary and genital tracts, and suffer from urging to micturition, pollutions, impotence, etc.

These patients were at once considerably benefited by the above-mentioned local treatment. After a few injections the lost energies returned, the patients felt relieved and gradually became perfectly capable of performing all their bodily functions.

The testicles are usually quite normal. Sometimes, however, they are greatly developed, and it would be a grave error to determine an increased or a decreased sexual potency from the size and consistence of these organs, because there are patients who have lost the power of perfect coitus through obliteration of both vasa deferentia by gonorrhœal epididymitis, and still may remain very potent.

Not unfrequently the skin of the penis is found to be but little sensitive to the electrical currents, and at the same time usually shows unequal irritability of the different halves of the whole external surface of the genital organs. In the physiological condition, according to Benedikt, the right half is more sensitive than the left, yet I have frequently seen these conditions reversed.

It is also sometimes found that the above-mentioned muscular apparatus, which should prevent the reflex of blood from the corpus cavernosum, responds but weakly to the electrical current. As the ejaculation of the semen from the urethra is effected by these muscles, we can understand why certain patients complain that the fluid is no longer forcibly ejected, but slowly flows from them.

If a rectal electrode be introduced into the rectum of a sound man and the usual sponge electrode be used as the second pole applied over the bulbus urethræ in the line of the raphe perinei, a powerful contraction of these muscles can be produced under normal conditions, by an induced current, to such an extent that the whole perinæum springs forward, and a decided blow will be felt by the hand holding the electrode. Not infrequently, I have found that such phenomena are incomplete in impotence, even on using a much stronger current.

The prognosis in impotentia psychica or nervous impotence is usually favorable, as the genitals are normally formed and capable of functional activity, and as there are powerful erections, altough they occur at the wrong time and cannot be produced when most desired, therefore we must employ a psychic treatment. The influence of the central nervous system in hindering the erection must be reduced, and this accomplished, the patient will again become potent.

We usually find that such patients are abnormally excited (nervous) and seek coitus having powerful erections or extraordinary excitement, yet before the act is accomplished the penis becomes lax and its intromission is impossible. This result discourages him to such a degree, if again occurring, that he refrains from further attempts, through sheer mortification, and considers himself impotent. In such cases encouraging words and a promise of complete recovery exert a very beneficial influence in allaying the abnormal despondency, and not infrequently he parts from the physician with tears of gratitude in his eyes.

When the physician has gained the complete confidence of his patient the latter becomes more quiet, and further treatment is made possible. Should violent excitement still continue, large doses of potassium bromide (three grams daily) or water cure treatment can be used. Local treatment, however, is always most efficacious, and can be either electrical or mechanical (instrumental). We know that an irritation in the rectum or in the pars prostatica urethræ will produce erections, as will also, occasionally, the application of compresses or the allowing of sounds to remain in the urethra for any considerable length of time.

The treatment must be such as to convince the patient that he is not impotent, and is capable of having strong and lasting erections. When he has once made up his mind to this fact, the cure presents no more difficulties. Extraordinary erections must now be produced. This was accomplished by Benedikt, Schultz and others with good results by using the constant current. A weak current is usually employed. The copper pole is applied over the lumbar vertebræ and the zinc pole is brushed over the perinæum and penis alternately for two or three minutes each day. The treatment lasts from six to ten weeks. In stubborn cases, Benedikt introduces an

XUM

urethral electrode joined to the zinc pole as far as the pars prostatica. This proceeding is really merely a galvanic cauterization of the pars prostatica through the presence of caustic alkalies (N_2O) in the tissues, because, according to electrical laws, the zinc pole precipitates the alkalies. Although this treatment is followed by excellent results, I now employ the faradic current, as used by Duchenne, modified by the introduction of a metallic rod as one pole into the rectum. With one pole in the rectum, the other electrode is applied alternately to the bulbus urethræ and right and left to the ascending arteries of the penis. In this manner we produce contractions of the m. bulbo-cavernosus and of the m. ischio-cavernosi—in other words, of the muscular apparatus which assists in producing erections and in the ejaculation of semen. If anæsthesia of the skin of the penis or its surroundings, or a lessened sensibility be present, I also brush over these parts several times, and a normal sensibility is soon established. This method of treatment for impotence is not infrequently followed by the most excellent results, but it presents one drawback—it produces or increases nightly pollutions. Therefore this method is not to be recommended where frequent pollutions exist, as we would be, to use a homely expression, only stopping up one hole with another. Fortunately, however, frequent pollutions are rarely associated with this form of impotence, which is more often accompanied by spermatorrhœa, *i. e.*, a frequent or even continuous discharge of sperma without sexual excitement or erections. The use of the faradic current is often beneficial when spermatorrhœa is present, inasmuch as the almost continual flow of seminal fluid is changed into a periodical loss with erections and sexual desire—in other words, pollutions.

The local treatment with bougies or catheters is usually followed by good results when frequent pollutions exist or other phenomena are presented in the region of the pars prostatica, as, for example, sensatory or motor neuroses. In such cases, which usually arise from excesses or onanism, it is highly probable that we have to deal with pathological changes in the caput gallinaginis.

This form of impotence must be regarded as belonging to the reflex neuroses of the prostate and treated accordingly. According to Benedikt these cases only show signs of improvement after the application of the urethral electrode. If the cause of the neuroses is to be found in the caput gallinaginis, the local treatment of the pars prostatica is the most rational. The mildest method is the introduction and leaving of wax or soft rubber bougies in the urethra. Thick heavy sounds which distend the urethra and exert a pressure upon the caput gallinaginis work more powerfully. Likewise the cold sound (psychrophor, Winternitz) gives decided relief, as cold is added to the pressure produced. If all of these methods fail we may have resource to a slight cauterization of the caput gallinaginis with argent. nitr., as will be fully considered in speaking of pollutions and spermatorrhœa.

I consider the use of the so-called aphrodisiaca, tinct. cantharid., phos. etc., harmful, as are also all apparatuses and rubber rings, applied to the root of the penis to produce powerful and lasting erections. Roborants, as china and iron, cold water applications, sea baths, and mountain resorts, are useful and particularly to be recommended as after-treatments.

CHLOROFORM AS AN ANTI-FERMENT.—A writer in the *Medical World* has come to the conclusion, from an accidental experiment made by himself, that one drachm of chloroform will preserve a pint to one quart of milk indefinitely, if securely stopped to prevent evaporation of the chloroform.

EFFICACY OF VACCINATION.—From a circular issued by Dr. John H. Rauch, Secretary of the State Board of Health of Illinois, it is learned that when the school-vaccination order went into effect Jan. 6, 1882, nearly 69 per cent., or over 490,000, of the enrolled scholars of Illinois were either entirely unprotected against small-pox by vaccination or had again become susceptible through failure to revaccinate at the proper time. Within sixty days—that is, by the first of March, 1882, there was less than six per cent. of unprotected and susceptible remaining among those in attendance; and the frequency of small-pox and varioloid among public school children had been lessened more than one-third, while the mortality rate of cases was reduced from 16.5 per cent to 3.3 per cent. On the one hand, the number of cases was reduced, owing to the general vaccinal protection; and, on the other hand, the cases which did occur were milder and less fatal, because of the modifying effect of vaccination. The small-pox reports made to the State Board of Health from all parts of the State during the four years, 1880–1883, show that the deaths among unvaccinated school-children were at the rate of 48 in every 100 attacked; while the deaths among vaccinated school-children were only in proportion of nine-tenths of one per cent. of those attacked.

COLLODION.—Mr. Sampson Gamgee writes: To swollen parts which cannot well be bandaged, collodion is especially applicable for the pressure attending its contraction. I was consulted in the case of a boy disfigured by a red and swollen nose, which became very pale and visibly contracted just after I painted it with successive layers of collodion. I prepared the application three times in a fortnight, producing shrinkage of the organ to its natural size and color. When the nasal bones are fractured, a very effectual mould for keeping them immovable after adjusting them with the fingers, may thus be made: place over the nose a thin layer of absorbent cotton soaked in collodion; as it dries, another layer of cotton and collodion, taking care that the application extends sufficiently on each side to give a buttress-like support. The patient compares the feeling to the application of a firm bandage on the nose, and the bones consolidate effectively under the shield, which may be renewed as it cracks and peels off.

DEAF-MUTISM AND RELIGIOUS CONCEPTIONS.—So far as is yet known, it appears that the deaf-mute not only has no idea of a future state, but he has not even any idea of death—a circumstance which should prevent any from hastily assuming that the absence of religious ideas in the case of the deaf-mute is evidence against their truth; for death, at any rate, is certain, however unsuspected by the untaught deaf-mute. The Rev. Samuel Smith, who has been for twenty-eight years in almost daily contact with deaf-mutes, says that in not a single instance has an uneducated deaf-mute been found to have any conception of the existence of a supreme being as the creator and ruler of the universe.—*Popular Science News.*

RINGWORM OF THE SCALP, often so tedious and obstinate, has been treated with great success by Dr. Alexander, of Charity Hospital, with a pigment of chrysarobin of ten per cent. strength in lig. gutta percha The object gained is the isolation of the patches of diseased skin, the exclusion of oxygen from the fungus and its destruction by the parasiticide. The parts are covered with a layer of the pigment applied with a stiff brush and only renewed as it cracks, say once or twice a week, until the cure is completed. This treatment he found effectual when the usual agents had failed.

XUM

THE "A. C. E." ANÆSTHETIC MIXTURE.—The anæsthetic mixture now frequently employed by physicians under the abbreviated name of "A. C. E." is composed of one part alcohol, two parts chloroform, and three parts ether, all by measure. Considering the specific gravities of the component liquids, more than one-half of the mixture, by weight, consists of chloroform.

STRETCHING AND EVULSION OF THE NERVUS NASALIS EXTERNUS.—In a woman suffering from glaucoma, Abadie had performed sclerotomy and iridectomy without result.

Afterward he performed stretching and evulsion of the nervus nasalis externus, as a consequence of which the glaucomatous appearances vanished and the vision was increased. This operation has been of aid also in other cases; it is, however, best combined with either iridectomy or sclerotomy.—*Centralbl. f. Prakt. Augenheil.*

TREATMENT OF EPILEPTIFORM NEURALGIA, OR THE SO-CALLED INCURABLE FACIAL TIC.—W. J. Walsham F.R.C.S. (*Pract.*, July; *N. Y. Med. Abs.*, Aug., 1884), reports that he has obtained "the most happy results" in this terrible complaint from stretching the inferior dental and auriculo-temporal nerves. Six cases are given, all of which appeared to have been permanently cured.

CAUTERIZATION OF THE EAR FOR SCIATICA.—The curious fact that cauterization of the helix of the ear is a promptly curative procedure in many cases of sciatica of peripheral origin is again illustrated by a number of cases collected in *Schmidt's Jahrbucher*, No. 2, 1881. The cauterization of the helix of the ear of the same side as the painful limb was accomplished with Vienna paste.

SPUTA IN PHTHISIS.—The signification of the sputa in phthisis varies according as they originate mainly in the bronchi, in softening, consolidation, or in cavities. In cases of chronic phthisis, with more or less bronchial dilatation, and also in cases of excavation, the expectoration of large quantities of muco-purulent material indicates a persistence of the catarrhal process, which, if long continued, is likely to lead to an increase in the pulmonary induration. In early phthisis, also, the sputa originate principally in the bronchi, and much expectoration usually indicates activity of the disease. During the process of softening, the amount of expectoration varies according to whether or not there is free communication between the softening masses and large bronchi. It may, therefore, be stated generally, with regard to the expectoration in phthisis, that diminution in amount is of favorable import, while the persistence of large quantities of sputa is indicative of more or less activity of the phthisical process.

THE USE OF CRUSHED ICE AND LARD IN TREATMENT OF BURNS AND SCALDS.—In the *Æsclepiad* for April, 1884, page 154, the treatment of burns and scalds by crushed ice and lard is warmly advocated by Dr. Benjamin W. Richardson. To put the method into practice, ice is well crushed, or scraped as dry as possible, then fresh lard is admixed until a broken paste is formed. The mass is then put in a thin cambric bag, laid upon the burn or scald, and replaced as required. The pain is rapidly eased, and its return is the call for the repetition of the remedy. This mode of treatment is as scientific as it is simple. It saves at once the fever incident to pain, and it leaves very little contraction of surface.

ATMOSPHERIC DISINFECTION AND PURIFICATION BY ELECTRICITY.

REFERRING to the conclusions of M. Romain Vigouroux in the *Progrès Médical* regarding the prophylaxis of cholera and the efficient results obtainable by the daily practice of static electrization, we give below a description of a system or apparatus now being manufactured in New York:

By means of a very simple arrangement of an induction or static electrical machine (requiring no more power than a sewing machine to operate, and occupying about as much space) and a small exhaust fan operated in combination, the atmosphere of a closed room is maintained in circulation in contact with hundreds of continuous diffusive discharges of electricity, whereby the garbage of the atmosphere is consumed; carbonic acid, sulphureted hydrogen and other noxious gases decomposed, free oxygen converted into ozone, and the air returned to the room in its virgin purity. In short, it is a sanitary wonder and strictly in accord with the chemical operations in nature during the thunder storm, the wind storm and the snow storm.

REMARKABLE INSTANCES OF APHASIA.—Brown-Séquard, in the *Société de Biologie*, referred to a case of aphasia where the individual only had three words at his command, yet he sang admirably, and while singing made use of the words of the song. A physician in Cincinnati, who is suffering from aphasia, talks in his sleep at night. A third case is able to speak when delirious.

NEW REMEDY FOR PHTHISIS.—Aluminium and its compounds are affirmed by Dr. Pick to constitute a most effective remedy against pulmonary tuberculosis, this opinion being based on experiments upon rabbits as well as on clinical observations. In one case, where infiltration of the apices of the lungs had occurred, removal of the lesion and all the morbid symptoms is said to have followed the administration of aluminium in the following form: metallic aluminium, eight grams; aluminium hydrate, five grammes; calcium carbonate, five grammes; gum tragacanth, in sufficient quantity; divided into sixty pills, one pill being taken three times a day.—*Lancet*, *May* 3, 1884.

GINGIVITIS—Canquil (*Bull. Gen. de Thérap.*) recommends the use of chromic acid in mercurial gingivitis. In the venereal department of Montpelier, Roustan employed this form of treatment. In many instances, two or three applications of a five-per-cent. solution to the gums by means of a brush are quite sufficient to produce the required result. C. reports a number of cases of gingivitis produced by the gray salve, where the application was made at intervals of two days, with the result of curing the case. In two cases of angina, with enormous hypertrophy of the tonsils (syphilitic), chromic acid proved to be the most effectual remedy, after a number of other drugs had been used. In the cases the remedy was applied four times in the course of two days, resulting in the cure of both patients.—*Therapeutic Gazette*, July.

MISCELLANY.

—There will be several important gatherings of medical men in St. Louis during the present year, viz., the Missouri Institute of Homœopathy, March 5 and 6; Western Academy, May 28, 29 and 30; American Institute, June 2. All of these societies will hold their sessions at the Lindell House.

XUM

—A death from nitrous oxide gas, administered by a dentist in Paris, is reported.

—Dr. Obed. H. Crosby, of Atlantic City, N. J., died January 6, 1885, of Bright's disease, at the age of 35.

—BALDNESS.—Hebra's prescription is tincture macis, half an ounce, combined with six ounces of sweet oil.

—Dr. W. J. Maynard recommends a solution of naphthol as very efficacious in the irritable skin of chronic pruritis.

—Mrs. Philander Peck, of Chicago, has recently left $400,000 for the erection and support of a home for incurables in that city.

—The Hahnemann Medical Association of Louisiana invite the profession to join them in the celebration of Hahnemann's birthday, April 9, 1885.

—Deep snoring, and an insensible conjunctiva, are good signs of insensibility, but the most trustworthy one of all is subsultus tendinum of the fingers.

—The medical and surgical societies belonging to the Paris hospitals have decided on no account to admit women to compete for positions in the hospital service.

—Dr. O. S. Taylor, of Auburn, N. Y., completed his 100th year on December 17. He graduated from Dartmouth College in 1809, and from the Medical College in 1813.

—Dr. Parvin reports relief of vaginismus from the application of a four-per-cent. solution of cocaine. The same drug is used in this city for the painless filling of teeth.

—The position of Resident Physician to Hahnemann Hospital is open. Candidates should address Dr. J. H. Thompson, Secretary, etc., No. 36 East 30th street, New York.

—The death is announced of Dr. Henry Gibbons, Sr., of San Francisco, Cal. Dr. Gibbons established and successfully conducted the *Pacific Medical and Surgical Journal.*

—A case of calcareous degeneration is recently recorded in which the patient, a female, died at the age of 23, weighing 300 pounds, and it is stated that no case has been reported its equal.

—The alumni of Hahnemann Medical College, Philadelphia, have organized an Association, of which Dr. Korndoerfer is President. The annual meeting will be held in Philadelphia, the night before the commencement of the College.

—Dr. Christopher C. Graham, of Louisville, Kentucky, died on the evening of February 2, after a short illness. He was 100 years old last October. He was born in an old fort near Danville, Kentucky, and was an associate of Daniel Boone.

—According to the *Jour. Am. Med. Ass'n.*, December 18, 1884, Professor French states that interstitial hypertrophy of the liver is always due to one of four causes: 1. Alcohol. 2, Syphilis. 3. Malaria. 4. Transmitted inflammation from the gall-bladder.

—Dr. Strong, Chief of Staff of the Ward's Island Hospital, reports 727 patients treated during the month of January, with a death rate of 3.71 per cent. During the year 1884 there were treated at the hospital 5,461 patients, with a death rate of 5.13 per cent. The general summary of the diseases treated is as follows:

General diseases, 3,230; surgical, 1,745; erysipelas, 124; gynæcological, 80; venereal, 214; ophthalmic, 68; total, 5,461.

—The Brooklyn Homœopathic Hospital Dispensary Staff has elected B. E. Mead, M.D., President, and John L. Moffat, M.D., Secretary. There are nine clinics and seventeen physicians and surgeons: 9,883 patients were treated in 1884, and 23,668 prescriptions dispensed.

—Several German journals allude to the efficacy of "benzol magnesia" as a grease eradicator. It is prepared by saturating calcined magnesia with benzol. A little of this powder rubbed on a greasy stain on paper or any fabric, will remove it, but old stains may require a repetition of the process. The mixture is said to be excellent for cleaning windows.

—An amendment has been proposed to the British Medical Act Amendment Bill, to the effect that two physicians of over twenty years standing be made life peers, and act as Lord Justices of Appeal in medico-legal trials. Some such measure has been repeatedly urged by members of the profession in England, and if carried out will considerably strengthen the hands of justice.

—According to Dr. Dolan's work on hydrophobia, physicians may convey to their patients a reasonable hope of almost perfect immunity from the disease after three months have elapsed from the time the bite was inflicted. The danger is thought to be lessened with every month that passes, "so that after a year the physician may afford a scientific certainty of the patient's recovery." Absolute quietude, or "sedation," and the use of the Turkish bath, are the measures chiefly recommended as preventive treatment.

—Here are two current news items which present a startling yet altogether logical comparison. Massachusetts last year enjoyed an almost total immunity from small-pox, but nine cases, with only one death, having been known to occur in the entire State in a twelvemonth. In Kashmire the mortality during the year was of almost incredible proportions. The history of twenty-five families was recently taken, in which it appeared that, out of 199 persons, 100 died of small-pox. In Kashmire there is no vaccination; in Massachusetts it is absolute, compulsory, and as general and systematic as tax-paying. Peace hath her victories. If modern medicine had done no other thing than demonstrate its control of one of the most terrible of human ills, it would be deservedly honored.

—Dr. John T. Nagle wisely suggests that government hospitals, for the treatment of persons suffering from consumption, ought to be established at military posts in Texas, Colorado and Southern California, where the conditions of altitude, mild temperature and dryness of the air are unexcelled. Such stations of observation ought to be under the supervision of the National Board of Health, in order that the best possible use could be made of information which might be obtained. It is probable that valuable discoveries regarding the nature and progress of consumption would be made if physicians were constantly observing cases of the disease under favorable conditions. Consumption is such a scourge to humanity that any means of abatement cannot be considered too expensive. In this city more than one-seventh of the deaths are caused by consumption, and of grown persons more than one-fifth die from the disease. The Government is ready to take extraordinary measures against a threatened epidemic of cholera, which could destroy only a few thousand lives at most in this latitude. It ought to do something to check the increase of a disease which kills over 5,000 persons each year in this city.

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